

### **Factual Report – Attachment 23**

Transcript from an interview with the US Coast Guard regarding NAVTEX and other NAVTEX-related materials; transcript of testimony from the US Coast Guard Communication Center's Commanding Officer during the US Coast Guard Marine Board of Investigation.

## **METEOROLOGY**

DCA21MM024

*Submitted by: Mike Richards  
NTSB, AS-30*

UNITED STATES OF AMERICA

NATIONAL TRANSPORTATION SAFETY BOARD

\* \* \* \* \*

Investigation of: \*

\*

CAPSIZING OF THE LIFTBOAT *SEACOR* \*

*POWER* SOUTH OF PORT FOURCHON, \* Accident No.: DCA21MM024

LOUISIANA, ON APRIL 13, 2021 \*

\*

\* \* \* \* \*

Interview of: [REDACTED], Chief Warrant Officer  
United States Coast Guard

Via Telephone

Tuesday,  
June 15, 2021

APPEARANCES:

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National Transportation Safety Board

CPT MICHAEL KUCHARSKI, Investigator  
National Transportation Safety Board

MARCEL MUISE, Investigator  
National Transportation Safety Board

CPT TRACY PHILLIPS  
U.S. Coast Guard Marine Board of Investigations

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U.S. Coast Guard

MICHAEL CENAC, Designated Person Ashore  
*Seacor Power*

MELISSA HUFFMAN  
National Weather Service

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I N T E R V I E W

(2:06 p.m.)

MR. RICHARDS: The time is 2:06 p.m. Central Daylight Time on June 15th, 2021.

My name is Mike Richards, R-I-C-H-A-R-D-S, and I'm an investigator with the National Transportation Safety Board. I am sharing the meteorology group for the NTSB's investigation into the accident involving the *Seacor Power* on April 13th, 2021.

I am on the phone with [REDACTED] from the U.S. Coast Guard. This is an interview with [REDACTED], and we are conducting this by phone.

[REDACTED], you're aware that the audio from this interview is being recorded, correct?

CWO [REDACTED]: Yes, I am.

MR. RICHARDS: Okay. The audio recording of this interview will professionally transcribed so for these purposes we are going to need the correct spelling of everyone's name on this audio recording. So [REDACTED], will you please go ahead and spell your name for the record.

CWO [REDACTED]: Yes, [REDACTED]

MR. RICHARDS: Okay. Thanks. Now we're going to go around to everyone else on the phone, and I'm going to start with NTSB, Captain Kucharski, could you introduce yourself and spell your name, please?

CPT. KUCHARSKI: Good afternoon, this is Michael Kucharski,

1 M-I-C-H-A-E-L, K-U-C-H-A-R-S-K-I.

2 MR. RICHARDS: Thank you; and Marcel?

3 MR. MUISE: This is Marcel, Muise, M-U-I-S-E. I'm an  
4 investigator with the Office of Board Safety.

5 MR. RICHARDS: And we'll go to the Coast Guard. Captain  
6 Phillips?

7 CPT. PHILLIPS: Good afternoon, this is Tracy Phillips,  
8 P-H-I-L-L-I-P-S, I'm the Chair of the Coast Guard's Marine Board  
9 of Investigation.

10 MR. RICHARDS: Thank you, and [REDACTED]?

11 [REDACTED] Good afternoon, this is [REDACTED]  
[REDACTED] I am the legal advisor to the Coast Guard Marine Board of  
13 Investigations.

14 MR. RICHARDS: And Mr. [REDACTED]

15 MR. [REDACTED]: Good afternoon. [REDACTED], that's [REDACTED]  
[REDACTED], and I'm a member of the Coast Guard Marine Board of  
17 Investigations.

18 MR. RICHARDS: Thank you, and Lt. [REDACTED]?

19 LT. [REDACTED]: Good afternoon. I'm Lt. [REDACTED]  
[REDACTED], and I'm here on behalf of the Coast  
21 Guard to assist [REDACTED].

22 MR. RICHARDS: Oh, you're a representative? Thank you.

23 [REDACTED]: As legal counsel.

24 MR. RICHARDS: I appreciate that, sorry. I should have asked  
25 about that, okay. *Seacor*, Mr. Cenac.

1 MR. CENAC: Michael Cenac, M-I-C-H-A-E-L, C-E-N-A-C. *Seacor*  
2 Marine designated person ashore.

3 MR. RICHARDS: Okay, and I see two phone numbers on here,  
4 too, and I think I know who those people are, but let me just make  
5 sure. Area code [REDACTED], that's you Lt. [REDACTED],  
6 correct?

7 LT. [REDACTED]: That is.

8 MR. RICHARDS: Okay. And area code [REDACTED], that's  
9 you Mr. [REDACTED], correct?

10 [REDACTED]: That's correct.

11 MR. RICHARDS: Okay. Thank you, everybody. So, the way this  
12 is going to work is I'm going to start off -- [REDACTED] I'm going to  
13 start off asking you some questions, and then when I'm done, we'll  
14 go to each and every person here at the virtual table, if you  
15 will, and let everybody have a chance to ask and we may -- we'll  
16 likely go around a few times asking questions.

17 If you don't know the answer to anything, it's absolutely  
18 fine -- please say you don't know. We don't want you guessing.  
19 If you need a break or you want to confer, go on mute and confer  
20 with your representative, however you do that, that's fine. Just  
21 let us know.

22 I think the way I'd like to do the interview today is  
23 separated into two sections. First, I'd like to -- and for  
24 everybody else on the call, I'd like to go through any general  
25 questions regarding NavTex, or background questions. We'll ask

1 those first, and after we're done with those, then we'll get into  
2 questions about performance and how it -- how NavTex's performed  
3 on the accident day -- try to do it that way.

4 I think that's all -- oh, [REDACTED] we are going to have one person  
5 from the Weather Service who's going to join the interview,  
6 they'll join late, and I'll make sure to have her introduce  
7 herself when she joins. Probably in about 20 or 30 minutes.

8 But at this point, let me ask, [REDACTED] do you have any questions  
9 for us before we get started?

10 [REDACTED]: Not really, no.

11 INTERVIEW OF [REDACTED]:

12 BY MR. RICHARDS:

13 Q. Okay. So, let's start with your position with the Coast  
14 Guard. What do you do?

15 A. So I'm a Chief Warrant Officer in the Coast Guard. I am a --  
16 I have been stationed at Communications Command, which is our  
17 long-range communications service provider for the Coast Guard,  
18 and I've been here for four years. I am an Operations System  
19 Specialist by title.

20 Q. Are you -- do you work with NavTex in some capacity?

21 A. Out of Communications Command, we send out all of NavTex's  
22 broadcast for the lower 48 and Hawaii. We are keying all those  
23 sites for the 448 -- from here, Chesapeake, Virginia.

24 Q. Okay. So I think most, if not everybody, on the phone is  
25 familiar with NavTex, but just for the record, could you give us a



1 brief description of what NavTex is? What's the service? How  
2 does it work in general? What does it provide users?

3 A. So NavTex is a medium frequency broadcast that's broadcast on  
4 518 kilohertz in the U.S., and it's a navigational tech -- so it  
5 provides text supervision to Chesapeake, and it's mostly intended  
6 for a Sea Area A2, which is basically 200 nautical miles.

7 Q. Okay. It's -- so its nominal range is 200 miles offshore for  
8 reception?

9 A. Yes.

10 Q. Okay. If you're a vessel, if you're a user, what type of  
11 equipment do you need on your vessel to receive information via  
12 NavTex?

13 A. So -- I don't know exactly what the carrier requirement is,  
14 but it would need a NavTex receiver.

15 Q. Okay. So there's a receiver that's specific for reception of  
16 NavTex messages, right?

17 A. Yes.

18 Q. Okay. One thing I haven't been able to find very easily, and  
19 maybe you can help us with this, is a map or chart that depicts  
20 the coverage area for the New Orleans NavTex broadcast. Is that  
21 something that you or your office has that you could provide to us  
22 later after this call?

23 A. Yeah, we could probably get through with -- headquarters and  
24 get that information to you.

25 Q. All right. I'll follow up with an email to either you or

1 whomever appropriate in the Coast Guard for that, thank you. What  
2 other type of -- what type of products were distributed by NavTex?

3 A. The majority of the products are meteorological forecast,  
4 navigational warnings, meteorological warnings, and there are  
5 other products that are -- there are other categories that can be  
6 disseminated via NavTex. But, for the most part it's those  
7 navigational warnings, meteorological warnings, meteorological  
8 forecast.

9 Q. Okay. For the meteorological products, where does the Coast  
10 Guard get them? How does that -- how does the Coast Guard receive  
11 those weather products that they're going to distribute via  
12 NavTex?

13 A. Our weather products are sent via record message traffic the  
14 C2X system by the U.S. Navy Fleet Weather Center, and also  
15 directly -- some of the broadcast most mariners' navigational  
16 warnings will come from within the Coast Guard, via record message  
17 traffic.

18 Q. Okay. But the meteorological products come from Fleet at  
19 Navy?

20 A. Yeah, Navy Fleet Weather Center.

21 Q. How does -- what's the reason -- what historically -- why is  
22 -- or maybe it's relatively recent -- or, let me ask you this; how  
23 long has the Navy been providing the meteorological products for  
24 NavTex to the Coast Guard?

25 A. I actually, that would be pure speculation. I have no idea

1 how long we've been doing that.

2 Q. Okay. Do you know why the Navy provides the Coast Guard with  
3 the meteorological products? As opposed the Coast Guard getting  
4 them from one of the numerous streams that the Weather Service  
5 puts out?

6 A. Again, I'd be speculating, but we could -- I think that would  
7 be a good question to ask the Navy Fleet Weather Center. So.

8 Q. Okay. All right, fair enough. Once the Coast Guard receives  
9 a meteorological product from the Navy, what's the path that  
10 product takes for it to be ultimately be distributed -- be  
11 broadcast by the Navy -- I mean by the Coast Guard received by the  
12 user? What's -- how -- what are all the steps that product goes  
13 through to get out within the Coast Guard?

14 A. Once it is adjusted into -- once it's -- once it becomes  
15 record message traffic, and is sent to the Coast Guard Weather  
16 Circuit, the Weather Circuit in C2IX, there is a OIX profiler  
17 system or whatever that the -- one of our service centers that  
18 takes the product out of OIX and turns it into a test file, puts  
19 it into a server as a text file, and then our automated broadcast  
20 system looks in that directory for that text file, and the system  
21 consists of a text parser that adjusts the products and adds them  
22 to each broadcast tube, and then once they're in the broadcast  
23 tubes it's time for a scheduled broadcast, or for a broadcast to  
24 go out there's also a transmit program in that system that  
25 controls the air fuel 1000, or NavTex modem and heats up the --

1 sends out the principal information over the zero port to the  
2 modem, and the modem will send out the information down a Verizon  
3 owned and operated audio network, for lack of a better term, that  
4 sends the signal to the transmitter site, and then it's broadcast  
5 over a small cell transmitter. You know --

6 Q. Okay. Is this service -- like if we're talking about New  
7 Orleans specifically, is the New Orleans NavTex service, I guess  
8 for lack of a better term, controlled by locally, by people in New  
9 Orleans, or near New Orleans? Or is it more nationally  
10 controlled, for example from where you are in Virginia?

11 A. It's keyed and operated from Chesapeake, Virginia, but it's  
12 maintained locally in New Orleans.

13 MR. RICHARDS: Okay. I might come back to that just to  
14 clarify what maintenance is, but okay. At this point let me  
15 pause. I have a few more questions about NavTex's background but  
16 let me pause and go around the room and again remind if we could  
17 hold any questions regarding April 13th, to a little bit later and  
18 just keep these more general -- background. Let me start with  
19 Safety Board and Mike Kucharski. Do you have any questions at  
20 this point?

21 BY MR. KUCHARSKI:

22 Q. Yeah, the -- you mentioned the -- you get the weather from  
23 the NavTex's weather from the Navy Fleet Weather Centers. Center;  
24 is that correct?

25 A. Yes, sir.

1 Q. Okay. Are there two weather centers? Fleet Weather Centers?  
2 One in San Diego, and one in Norfolk? Or is it all in Norfolk,  
3 now?

4 A. I don't know if there's one in San Diego, but we do get our  
5 weather from the one Norfolk.

6 Q. Okay, okay. You don't get any weather through the Fleet  
7 Numerical Meteorological Oceanography Center?

8 A. I would be speculating. I'm not really sure if there's any  
9 products that come from them, but no person that I've ever  
10 interacted with was from the Fleet Weather Center.

11 MR. KUCHARSKI: Okay, thank you. That's all I have, Mike.

12 MR. RICHARDS: Thank you. Marcel, any questions at this  
13 point?

14 BY MR. MUISE:

15 Q. Yeah, good morning, sir. We talked a little bit about  
16 pushing the weather messages out by the United States. What's the  
17 path that the search and rescue message -- like an urgent marine  
18 information broadcast. How would that get pushed out to the  
19 NavTex's users? Would that also go through Chesapeake?

20 A. Yes, there was the -- so in order for information broadcast,  
21 or something that was generated by the Coast Guard would be sent  
22 into the automated broadcast system and it would reject upon  
23 receipt for me to broadcast, and there would be message to  
24 Watchstander to broadcast it immediately.

25 Q. Is that only done for cases that are managed by Atlantic

1 area, or its district, but can a second command center also push  
2 out any OYB by NavTex?

3 A. Yes, it's possible but it would not be the intended service  
4 area, generally.

5 Q. And that that's because NavTex is for Sea Area A2? Is that  
6 right?

7 A. Yes, generally.

8 MR. MUISE: Okay, thank you, that's all I have.

9 MR. RICHARDS: Okay. Coast Guard, Captain Phillips?

10 BY CPT. PHILLIPS:

11 Q. Good afternoon. Chief Warrant Officer [REDACTED], thanks so much  
12 for helping us out today. This is Tracy Phillips. Just for the  
13 benefit of everybody in the interview, could you provide a little  
14 bit more of a description of the C2IOX system?

15 A. Yes, Captain, glad to. Command and control official  
16 information exchange besides the Navy record messaging system,  
17 it's what they -- it so, would you like me to go into what records  
18 method traffic is?

19 Q. Yes, please.

20 A. Military messaging you have your official and plain language  
21 addresses. Your front two daytime -- everything has a daytime  
22 group stamp, so it's how traditionally you send official  
23 communications between units.

24 CPT. PHILLIPS: Great, thank you. That's all it for now.

25 MR. RICHARDS: Thank you, let me go back to Captain

1 Kucharski.

2 BY CPT. KUCHARSKI:

3 Q. I'm sorry. Maybe this was covered, but I still didn't catch  
4 it. How would a message, a weather message or a safety -- or some  
5 kind of marine message is sent to you, who actually determines if  
6 it's urgent, or if it's safety?

7 A. Those things are already predetermined. First of all, first  
8 -- for an urgent marine information broadcast for a search and  
9 rescue thing, that would be by the subject matter. But we are --  
10 the Coast Guard is party to and in agreement with the National  
11 Weather Service, NOAA, through a group called -- where -- which  
12 broadcasts we are going to send out and when. So, generally, for  
13 like a NavTex site, your special marine warning broadcast would be  
14 the ones that are intended to be broadcast upon receipt.

15 Q. Okay. This is Mike Kucharski again. If it gets it -- so a  
16 special marine warning, would that be a weather marine warning?

17 A. Yes, sir. It would be the special marine pro -- warning  
18 products that come out of the National Weather Service Offices are  
19 one thing that would be broadcast upon receipt. Also, a tsunami  
20 advisory by agreement would be broadcast upon receipt. These are  
21 all parsed by the automated broadcast system to prompt the Watch  
22 Center to action, they're not something that we do by our own  
23 discretion.

24 Q. Okay, so, if I'm understanding it, you get regular printed  
25 letter or some kind of weather from the Fleet Weather Center. But

1 you also get special marine warnings separately from the National  
2 Weather Service; is that correct?

3 A. Sorry to confuse you. When I speak of where the products are  
4 coming from, they're all coming from the National Weather Service  
5 that we're sending out, but they are coming through the Fleet  
6 Weather Center. They have a system that packages them and then  
7 injects them into the sense messaging system.

8 Q. Okay, now I understand a little bit better. Is there a  
9 timeframe that you work towards from upon receipt to where it goes  
10 out?

11 A. We do not have any specific timeframe that constituted an  
12 immediate thing. Just as soon as they notice that they're  
13 supposed to take action.

14 Q. Okay and thank you for that. Is it -- so I'm understanding  
15 the system, if some message traffic is coded as a certain code in  
16 there or automatically push to send it out automatically? Or is  
17 someone physically who's looking at say a special marine warning  
18 and then saying okay, this needs to be made -- sent out in urgent  
19 basis, or a safety basis, or whatever it may be. Is it someone  
20 physically that's determining that and pushing it, or does it --  
21 is it completely automated?

22 A. So, the message filter in the automated broadcast system or  
23 the text parser, reads the product ID for the National Weather  
24 Service product and then that product ID triggers the message to  
25 reject in the system. At that point, it requires the Watch Center



1 to intervene so they get an audible alert and they have to  
2 intervene and stop whatever broadcast might be going out that's  
3 scheduled and immediately send whatever new urgent or safety  
4 message that needs to go out.

5 Q. Okay, so -- thank you, I think I understand now, or tell me  
6 if I'm correct or not. So, there is intervention by -- human  
7 intervention to make sure that special marine warning say goes --  
8 actually goes out?

9 A. Yes, but it -- yes. There's no decision, but there is human  
10 intervention that needs to happen.

11 CPT. KUCHARSKI: Okay, thank you, thank you. That's all,  
12 Mike.

13 MR. RICHARDS: Okay, thank you. As I mentioned, Ms. Huffman  
14 from the Weather Service has joined so, Melissa would you mind  
15 going ahead and just introducing yourself and spelling your name  
16 for us please?

17 MS. HUFFMAN: Yes, hi. This is Melissa Huffman, the Warning  
18 Coordination Meteorologist for the National Weather Service in  
19 Corpus Christi. Last name spelling is H-U-F-F-M-A-N.

20 MR. RICHARDS: Okay, thank you. Coast Guard, [REDACTED], do  
21 you have any questions at this point?

22 [REDACTED] No questions, thank you.

23 MR. RICHARDS: Coast Guard -- I'm sorry, there's an airplane  
24 flying over. Coast Guard, [REDACTED], do you have any questions  
25 at this point?

1 MR. [REDACTED]: Yeah, just a couple of quick questions.

2 BY [REDACTED]:

3 Q. One, is there a routine time right when the NavTex broadcasts  
4 special marine information, navigational information and other  
5 weather forecasts and everything else, they're specially timed; is  
6 that correct?

7 A. Yes, sir. There is a scheduled broadcast six times a day for  
8 up to four-to-ten-minute window that products are broadcast in  
9 addition to the ones that are broadcast upon receipt.

10 Q. Okay. I'm looking -- are you familiar with the GMDSS manual?  
11 The master plan?

12 A. Yes, sir.

13 Q. Okay, in there, in the master plan I'm looking at the times  
14 for New Orleans for example, would that be a 0100, 0500, 0900,  
15 1300, 1700, and 2100?

16 A. Yes sir, that's correct.

17 Q. That's the normal times of broadcast, okay. So, if I wanted  
18 the weather or anything I just make sure my NavTex were on at  
19 those times to receive it?

20 A. Yeah, you would have to have your receiver properly  
21 configured to receive from that site, and on at the right time,  
22 yes.

23 Q. Let me ask you this: are you familiar with -- this is -- I  
24 know this is a NavTex receipt but this is a medium frequency  
25 broadcast, so if I had a single side band -- excuse me, medium

1 frequency radio, I can also tune it at 500 18 megahertz --  
2 kilohertz, and I would receive this weather's -- information as  
3 well, right?

4 A. You would just have a radio and you were listening to the  
5 audio it wouldn't be discernable to as any information. It's  
6 going to sound like a modem.

7 Q. No, no, I mean on the Tel-X receiver, Tel-X, like the GMDSS  
8 equipment.

9 A. Yes, yes. You have a receiver that can decode the NavTex  
10 signal then, yes, you would be able to receive NavTex on 518  
11 kilohertz.

12 Q. Okay, so if my NavTex went out, I have a secondary feed to  
13 that -- what -- if I have GMDSS equipment then I can tune my  
14 narrow band direct -- marine radio, medium frequency radio to 518  
15 kils, and I can receive them after, NavTex as well -- information  
16 as well?

17 A. Sir, as this very server specific and not knowing what --  
18 exactly what radio you have, I wouldn't -- I couldn't speculate to  
19 say that be able to receive it or not? But, yeah, sorry I can't  
20 really --

21 [REDACTED]: That's fine, I was just -- that's fine. I  
22 understand. Thank you, that's it.

23 MR. RICHARDS: Okay, thank you. Mr. Cenac, *Seacor*?

24 MR. CENAC: No questions, thank you sir.

25 MR. RICHARDS: Thank you. And Melissa, I'll add you to the

1 end of the next time we go around, let you catch up a little bit.

2 BY MR. RICHARDS:

3 Q. Okay, [REDACTED]. I'm going to bring up -- because we've been  
4 talking a bit about the products and the schedule. I'm going to  
5 bring up everyone else but you I guess can see -- I brought up the  
6 Word document that you sent us, which at the very top of the Word  
7 document has a blue shaded figure, which is titled U.S. Coast  
8 Guard New Orleans, Louisiana. It looks like the Weather Service  
9 Marine Weather Broadcast Products via NavTex, identifier G, which  
10 I believe is New Orleans. Do you have that in front of you and  
11 can follow along as we -- as I ask a few questions about it?

12 A. Yes, sir, I do.

13 Q. Okay. It looks -- going back to what [REDACTED] was asking  
14 about, there's a broadcast schedule at the top, 1Z, 5Z, 9Z, 13Z,  
15 17Z, 21Z. This is the broadcast schedule for what, specifically?  
16 Just so we're clear.

17 A. That is the broadcast schedule for a routine broadcast out of  
18 the New Orleans, Louisiana MF NavTex site.

19 Q. It looks like given the list of products below, each of  
20 which, except one having an asterisk, and the asterisk identifies  
21 them as non-routine event driven product. It looks like only one  
22 of these products listed would be considered routine which is the  
23 NavTex forecast for Gulf of Mexico OFF-N-06; is that correct?

24 A. That is correct.

25 Q. Okay, so one could expect that at 1Z, 5Z, 9Z, 13Z, 17Z, and

1 21Z, every day out of New Orleans, you are going to get this  
2 NavTex forecast product broadcast?

3 A. Yes, sir.

4 Q. Okay, and any of these other products identified, which are  
5 special marine warnings from the region, marine weather statements  
6 from the region, as well as a tsunami as well as two tsunami  
7 advisories, would be as they say here, non-routine event driven  
8 products?

9 A. Yes, sir.

10 Q. So, you received these -- let's find that special marine  
11 warning. You receive a special marine warning from the Navy, once  
12 you receive that it's recognized as something that needs to be  
13 broadcast immediately, and the NavTex system broadcasts that  
14 immediately; is that correct?

15 A. Yes, so the NavTex system would, for a special marine warning  
16 would reject and prompt the Watchstander to intervene and  
17 broadcast immediately.

18 Q. And this could happen at any time of the day it's received,  
19 correct?

20 A. Yes, sir.

21 Q. Okay. Do you happen to know how long it normally takes  
22 between the time of receipt of a special marine warning, and the  
23 time it actually goes out over the air? In general?

24 A. I'd be speculating, I don't have from cradle to grave  
25 timeline for you, sir.

1 Q. Okay. Okay. I'm going to leave this up here in case there  
2 are any other questions about this. But the only other question I  
3 had -- and then we'll go around once more before we move on topics  
4 -- is I wanted to go back to the differences between what happens  
5 in Chesapeake, and what would happen, in context of this, what  
6 would happen in New Orleans. You -- said that there was -- I  
7 interpreted as some type of processing or software is going up in  
8 Virginia, but the maintenance occurs in New Orleans? Can you  
9 maybe talk a little bit more about the differences between what  
10 happens at the National Center as opposed to what happens  
11 normally, and locally as far as NavTex goes?

12 A. Yes, sir. So physically the site contains the transmitters  
13 and the antennas.

14 Q. Okay.

15 A. It also has the receiving equipment and audio signal for the  
16 Verizon network, so the maintenance at the site what I'm talking  
17 about is preventative and corrective maintenance for the  
18 transmitters and the site -- equipment at the site.

19 Q. Ah.

20 A. All the processing and the actual modems that encode the  
21 broadcast are in Chesapeake, Virginia.

22 MR. RICHARDS: I understand, I see. Okay, thank you. Thank  
23 you. Those are all the more general questions that I had, so I'm  
24 going to once again go around the room and see if anyone has any  
25 further questions before we move to April 13th. So, I'll start

1 again with the same order, Captain Kucharski?

2 CPT. KUCHARSKI: No sir, thank you.

3 MR. RICHARDS: Okay, Marcel?

4 MR. MUISE: Nothing, thank you.

5 MR. RICHARDS: Captain Phillips?

6 BY CPT. PHILLIPS:

7 Q. Thank you, good afternoon. This is Tracy C. Phillips, could  
8 you tell us a little bit more about the way that a Watchstander is  
9 notified that there's a special marine warning out there, and how  
10 it's displayed to them that the message is there requiring their  
11 intervention?

12 A. Yes, Captain. There is an audible alert, like a ding on the  
13 computer, and the message daytime group shows up in a window as a  
14 reject. This could be -- the reject could either be an improperly  
15 formatted message, or a special marine warning. So, it's up to  
16 the Watch Center to keep up to the -- not a special marine  
17 warning, it could be anything that's needs immediate broadcast,  
18 it's more broad than that. But, so, the Watchstander has to keep  
19 up with the reject queue to process those messages in a timely  
20 manner.

21 CPT. Phillips: Okay, thank you. That's it for now.

22 MR. RICHARDS: Thank you. [REDACTED]

23 [REDACTED] No questions, thank you.

24 MR. RICHARDS: Thank you. [REDACTED]?

25 [REDACTED]: No questions please, thank you.

1 MR. RICHARDS: Thank you. Mr. Cenac?

2 MR. Cenac: No, sir. Thank you.

3 MR. RICHARDS: Thank you. Ms. Huffman, Weather Service, do  
4 you -- I know you joined late, but do you have any questions at  
5 this point?

6 BY MS. HUFFMAN:

7 Q. I do have a few questions. This is Melissa Huffman with the  
8 National Weather Service. I guess I want to get a sense of the  
9 products that come in that the Watchstander interacts with are  
10 there any other National Weather Service Products that they have  
11 to handle, or is it just the special marine warnings that come in?

12 A. So, they are responding to -- they can be receiving products  
13 from internal -- from the Coast Guard, urgent marine information  
14 broadcast. They can broadcast those matters from inside the Coast  
15 Guard. The -- for -- we're also operating different types of  
16 broadcasts. We are also doing, we have 99 broadcasts per day from  
17 Chesapeake, nine NavTex MS sites and five HS sites. So, there are  
18 other products, but for the most part the immediate broadcast  
19 products from the National Weather Service would be the special  
20 marine warning and tsunami events.

21 Q. Okay, so just to confirm, severe thunderstorm watches, and  
22 tornado watches for near shore waters or waters within 20 nautical  
23 miles of the coast are not distributed through NavTex?

24 A. I'm not familiar exactly with what product ID they would be,  
25 but I do not believe so.



1 Q. Okay, and this is more of a philosophical question, but are  
2 you aware of any reasoning why the Watches would not be  
3 distributed?

4 A. I think generally would probably I mean -- if you want my  
5 opinion, my opinion would be that it's probably just not the right  
6 area for what NavTex is intended for.

7 Q. Okay, can you, and I apologize if this was covered at the  
8 beginning, could you expand on that? The intent of NavTex within  
9 the context of providing weather information?

10 A. So, yeah. The Coast Guard provides most of our weather  
11 information for Sea Area A1, via VHF, and so NavTex is generally  
12 target to outside VHF range to 200 nautical miles, which is your  
13 medium frequency band.

14 Q. Okay, thank you, and then my final question is, who or what  
15 group ultimately decides the products that get broadcast on  
16 NavTex?

17 A. The products that the Coast Guard broadcasts from the  
18 previous command are agreed upon by the Coast Guard and NOAA  
19 National Weather Service through the UNCLOG group.

20 MS. HUFFMAN: Okay, thank you. That concludes my questions,  
21 Mike.

22 BY MR. RICHARDS:

23 Q. Thanks, just real quick, is UNCLOG an acronym?

24 A. It is, I'm calling it UNCLOG group and the last thing is  
25 group on there, let me give you the acronym.

1 Q. [REDACTED] we can probably, we can find that, I don't think that's  
2 critical if you don't have it just readily available.

3 A. Sounds good, I'll get it off the Googles.

4 Q. Yeah, yeah, yeah. We'll -- don't worry about that. Okay,  
5 let me -- let's switch gears a bit. What I want to do, what I'm  
6 going to now is -- this is going to take me a second. Okay. So,  
7 everyone else can see, but you can't see, I've brought up a PDF,  
8 there are two of them actually. But they look like they're the  
9 same type of document. At the top, it says log server logs and  
10 one has the date of April 13th, 2021. The other has dated April  
11 14th, 2021. Do you have these documents in front of you?

12 A. I do.

13 Q. Okay. Can you explain what these -- these look like logs.  
14 What are these logs of?

15 A. Okay, so the automated broadcast system has a program called  
16 Log Client that is receiving events and other information from the  
17 system. It's all programmed in the system by a contractor for the  
18 Coast Guard.

19 Q. Uh-huh.

20 A. And this what you're seeing in front of you is the log for  
21 April 13th, and there's SUL queries on them that says that look  
22 for anything was related to G NavTex, which would be your New  
23 Orleans site.

24 Q. Okay. Okay, so these are logs of New Orleans NavTex activity  
25 at the bulletin level? Is that -- is there a better way to

1 describe it?

2 A. So, there are other log entries that would be happening  
3 concurrently on other sites. There are other events, there's  
4 other programs that are running on these computers as well that  
5 are logging in the system. What this is filtering is the actual  
6 transmissions of products. You'll see a list of the products,  
7 you'll see informational things from when broadcasters are started  
8 and when they're ended.

9 Q. Okay.

10 A. The informational things for when the broadcast is being set  
11 up, and you'll see -- you may see a couple error odes in there as  
12 well.

13 Q. Oh, okay. We'll go through this. So, let me -- I'm  
14 scrolling down just a little bit just letting everyone see how far  
15 this goes, it's not -- it's just one and half pages or so. So,  
16 before we get into these lines, let me see if we can under -- make  
17 sure we understand the columns correctly. The first column on the  
18 left side, okay -- it looks like there's three different codes  
19 that I see: 1NF, there's XMT, and there's ERC. Can you tell me  
20 what each of those three identifiers mean in first column?

21 A. Yeah. INF means informational. XMT means to transmit, and  
22 the ERC is an error code of some sort.

23 Q. Okay, informational, all right. The second code -- the  
24 second column is G NavTex which I assume is just identifying this  
25 is related to New Orleans, NavTex, correct?

1 A. Yes, sir.

2 Q. Okay. The third column looks like is all the letter U,  
3 uniform. What does that mean?

4 A. I'd be speculating exactly what that means, because it  
5 doesn't have a column label at the top. It's fine, I'm not  
6 exactly sure, it's something in the coding that they've --

7 Q. Okay. The second column has letters R-Romeo looks like O-  
8 Oscar, I don't think that's a zero, it may -- no it's an O. And  
9 then Z-Zulu. So, what are O -- ROMZ?

10 A. So, again I'm speculating here. I'm not supposed to be doing  
11 that.

12 Q. Okay.

13 A. It's something that the developer put in there, it appears to  
14 me as some type of precedent level, or mirror's off as a traffic  
15 precedent.

16 Q. Okay. Okay. The fifth column looks to be the action that's  
17 being noted, and then the last two columns are time and date --  
18 date and time, Zulu, that's straight forward to me. So, I'd like  
19 to get a little bit into the content of these logs and I'm looking  
20 right now -- I don't want to go line by line though, that would  
21 take a while. But, I'm highlighting the first 15 or so messages  
22 here, starts at 01:00 Zulu, 01:00:27 second Zulu. And ends at  
23 01:036:39 Zulu. To me just having looked at previously the  
24 schedule of the nominal broadcast schedule for New Orleans,  
25 NavTex. We know that a message is routinely disseminated at 01:00

1 Zulu. So, my guess is, is this is all related to a routine  
2 delivery of something and there may be some other stuff in there.  
3 Either way, I'd like to maybe if you could step us through this  
4 block of about the first 15 messages and just identify what each  
5 line is saying, that would be helpful, I think.

6 A. Okay, yes, I can do that.

7 Q. Okay, thank you.

8 A. You have your normal informational code of the schedule  
9 broadcasting started at 01:00, so you can see that it actually  
10 started at 01:00:27.

11 Q. Actually, I'm sorry. I've got to interrupt you already. Is  
12 there -- is the broadcast not always open? Does the broadcast  
13 need to start and stop at certain times? Is that what this, what  
14 that means?

15 A. Yes, yes. NavTex are coordinated broadcast otherwise they  
16 would run over each other. So, by geographic area, in order to  
17 avoid the signals bleeding into each other, they are coordinated  
18 so they do start and stop, they're not just left on all the time.

19 Q. Okay, thank you.

20 A. What you see here is the first transmit as the first thing  
21 that was transmitted for this scheduled broadcast. It appears to  
22 be an off-N-06, which is your offshore forecast for NavTex.  
23 Weather products from the National Weather Service, the four-digit  
24 codes is a NavTex identifier at the G-E-17, so the G means is the  
25 site identifier for New Orleans. The E means that it is a

1 meteorological forecast, that is a subject identifier for NavTex,  
2 and the 17 is just a serial number, it's the -- It'll to go --  
3 it'll just increment and then roll over back to 1.

4 Q. Okay.

5 A. It's always a two-digit code.

6 Q. So, if I can ask a couple questions about this. It looks  
7 like we have two date and time stamps here. Looks like in the  
8 action column -- that's what I'm calling the action column, anyway  
9 the one that identifies the OFF-N-06 product, there's -- looks  
10 like I'm guessing the day of 12 and then 21:11 Zulu. And then at  
11 the right there's a different date and time. So, what are these  
12 two date and times specifically?

13 A. Okay, so the original date and time is the date time group of  
14 the C2IX message that we received with that weather product, and  
15 the timestamp on the right is the actual time of broadcast for  
16 that message.

17 Q. Ah, okay. So, the time on the right is the actual time it  
18 was broadcast. That's straight forward. The time on -- in the  
19 middle column let's call it -- that's the time you received it, or  
20 that's just the time that's associated with the product that you  
21 received?

22 A. The latter. It's the time associated with the product that  
23 we received, basically. It's the unique identifier for the  
24 message that was received from the Fleet Weather Center that  
25 contained that product.

1 Q. Okay, so there's no time date stamp in here that specifically  
2 identifies what time the Coast Guard received the product from the  
3 Navy?

4 A. No, there is not.

5 Q. Okay. Thank you for clarifying that. Okay, please continue.

6 A. Okay, so, going to the next message, again you have the date  
7 time group of the message as we received it -- as it was sent from  
8 the Navy. You have the product identifier, it's a marine weather  
9 statement, LIF, I believe it's New Orleans. It's a NavTex G,  
10 again the site identifier, B being a meteorological warning, and  
11 54 being the serial number, and on the right, you have the time of  
12 broadcast, and the transmission.

13 Q. Okay. So, this would be an example of an event driven  
14 broadcast; is that correct?

15 A. Yes, it would, and the marine weather statements are event  
16 driven products that are broadcast on -- at the next scheduled  
17 broadcast. They are not broadcast upon receipt.

18 Q. So, marine weather statement will -- you'll receive it, but  
19 you will only broadcast it at the next time the routine broadcast  
20 has begun?

21 A. Yes, sir, that's correct.

22 Q. Okay, so it looks like on this time I may be getting the date  
23 and time stamps wrong. It looks like this was -- the time and  
24 date header for the product was a few days before? Are those  
25 first numbers a date? The 11th?

1 A. Yes, sir, they would be.

2 Q. Okay. Okay. So, this looks like a product that was, well, I  
3 won't -- I won't ask about that. Okay. Please continue.

4 A. Once those messages are broadcast the next line you see is  
5 that message being deleted from a queue. It's been broadcast it's  
6 no longer meant to go out again, so the system gets rid of it, and  
7 then you start a TMX message which is another marine weather  
8 statement. Now what appears to be from Tallahassee, it's another  
9 meteorological warning, so it's a mandatory reception for the  
10 mariner, so it's a coded with a B.

11 Q. Okay.

12 A. And then it has the next line is after it's been broadcast it  
13 is deleted. And you have followed on message from Brownsville, it  
14 appears marine weather statement that is broadcast and then  
15 deleted. Follow on you have one from Tampa --

16 Q. Mm-hmm.

17 A. -- that is broadcast and then deleted. The following is one  
18 from Mobile, and that is broadcast and then deleted. And then you  
19 have one -- so what you have here is a -- this appears to be a  
20 Coast Guard message, probably broadcast to us mariners.

21 Q. Okay.

22 A. -- that -- so it's the subject identifier is A, so it's a  
23 navigational warning of some sort. Those are broadcast until they  
24 are cancelled, or sometimes the Coast Guard will say broadcast  
25 five times and then cancel. Or, to a certain date. So there's



1 ways that can be done, so it appears that it was broadcast and  
2 then it moved onto another one from April 8th. That was broadcast  
3 at the end, and then the broadcast ended at 01:36:39 Zulu and not  
4 having nothing else to say.

5 Q. And then the next line says starting broadcast setup.

6 A. Yeah, so, I can't tell you exactly what that means, although  
7 that it does seem to appear in between, as soon as a broadcast  
8 ends it starts setting up the next broadcast.

9 Q. Understood.

10 A. So, what I believe that's doing in the system is it's -- all  
11 those counters to and decided whether or not it needed to delete  
12 anything from the queue or that kind of thing that hasn't already  
13 been thrown out.

14 Q. Thank you, I have a couple questions and more questions and  
15 then I'm going to pause and let other people ask them, I'm  
16 guessing there might be a few questions about this before we move  
17 on to later in the day.

18 With regard to the marine weather statement, I want to make  
19 sure I understand this. It sounds like this product, the  
20 immediate -- quickness I suppose, with which this product was  
21 broadcast as a non -- as an event driven product is different than  
22 how a special marine warning would be handled. From what you said  
23 before my understanding was that a special marine warning would be  
24 broadcast the moment it was received, as opposed to waiting until  
25 the next broadcast window. Is that how a special marine warning

1 would be handled?

2 A. Yes, that's how it was intended to be handled.

3 Q. So, a special marine warning if it was received at 02:30

4 Zulu, a broadcast window would open, and that product would be

5 broadcast via NavTex?

6 A. Yes, whenever the special marine warnings are broadcast the

7 Watchstander receives an audible alert --

8 Q. Mm-hmm.

9 A. -- and is to immediately broadcast that message.

10 Q. Okay. But that doesn't happen with the marine weather

11 statement?

12 A. No, that does not happen with the marine weather statement.

13 Q. Okay, thank you. Just making sure it's clear. Then my last

14 question is going back to the date and timestamp, let's take the

15 date and timestamp from the product issued from the marine weather

16 statement from Mobile. So, about the 10th line down or so. It

17 looks like it was disseminated, or broadcast, at 1:32:24 Zulu.

18 The timestamp in the middle column looks to be -- well it's

19 1:01:33 Zulu which I interpret to be 13:33:00 Zulu on the 10th.

20 Is that the correct way to interpret this date time perimeter?

21 A. That is my understanding of what that date means, yes.

22 Q. Okay -- which to me, that's 48 -- that's 60 hours in front

23 of, or prior to when the product was actually broadcast? I'm just

24 trying to figure out why that would be, do you have any idea as to

25 why the seemingly the time is 60 hours separated from broadcast

1 time?

2 A. I'd be speculating as to why that, why a broadcast from the  
3 10th it was going out the 13th.

4 Q. Okay. But to be clear, that date and timestamp in the middle  
5 column, that's associated with the product that you receive, it's  
6 not a log of time where some action was taken by the Coast Guard,  
7 correct?

8 A. No, yeah, all that is a identifier for the message. If the  
9 message was sent out with the wrong date and time group that's  
10 what it would have shown up, and that's what it would have looked  
11 like.

12 Q. Understood, okay. I'm going to pause now and go around and  
13 see if anybody has any questions at this point before, I move on  
14 to later in the day. So, let me start with Mr. Kucharski.

15 BY CPT. KUCHARSKI:

16 Q. Yeah, Mike, I'd like to revisit, it sort of ties in with this  
17 where you talk about special marine warnings with -- I'm a little  
18 bit unclear, if I may be permitted to then revisit what you talked  
19 about in which messages are set out? Is that okay at this  
20 junction?

21 A. Certainly, and I can bring up the nominal schedule that I had  
22 before if you want me to do that.

23 Q. I don't think it would be necessary but let me -- let [REDACTED]  
24 [REDACTED] be the judge. Chief [REDACTED], I'm -- I think you said, you  
25 answered someone's question, it may have been Ms. Huffman, that a

1 severe thunderstorm special marine warning would not be broadcast  
2 as a rule on NavTex? Is that correct?

3 A. No sir, that's not what I said, that's not what I said. But  
4 what I was saying is I don't know what product a severe  
5 thunderstorm ID would have, they were once -- if it was a special  
6 marine warning it -- yes it -- if it was one of the product IDs  
7 that are listed in the blue column, those are the ones that we are  
8 going to broadcast out of New Orleans. So it's one of those  
9 originating from one of those weather offices that are listed,  
10 that it would be broadcast (indiscernible) irrespective of what  
11 special marine warning says.

12 Q. Okay, okay. So, if we would need then the specific coding  
13 that goes into the message then to actually see if that would be  
14 -- if severe thunderstorms would be sent?

15 A. Yeah, if it's -- if for instance the New Orleans, office  
16 sends severe thunderstorms warning via special marine warnings,  
17 and it was encoded with the product ID SMWLIX, it would be sent  
18 out.

19 Q. Okay. Okay. I see, so, as long as that in when we say  
20 product ID, so in the message body if it has in there SMSLIX in  
21 the line to the particular station let's say, then that would be  
22 broadcast on NavTex?

23 A. Yes, the automated broadcast system is going to look for that  
24 product ID in the message that it received from the Navy Fleet  
25 Weather Center, and that is what is going to tell it to treat it

1 as a special marine warning and prompt the Watchstander to  
2 broadcast immediately.

3 Q. Okay, okay. So even irrespective like you said of what is in  
4 the body of the message, as long as that SMWLIX is in the message  
5 somewhere in the addresses line, then it would be -- the  
6 Watchstander would say this goes out, I don't read into the  
7 message any further than that, it just automatically is sent out  
8 as message traffic on an urgent basis?

9 A. Yes, sir.

10 CPT. KUCHARSKI: Okay. Great, thank you. Thank you for  
11 clarifying that, thank you.

12 MR. RICHARDS: Okay. Marcel, any questions at this point?

13 MR. MUISE: No, this has been very educational, I have  
14 nothing else to add though.

15 MR. RICHARDS: Okay. Captain Phillips? Looks like we may  
16 have lost Captain Phillips, I don't see her on the list, she must  
17 have had to drop off. [REDACTED]

18 [REDACTED] No questions, thank you.

19 MR. RICHARDS: Thank you. [REDACTED]

20 BY [REDACTED]

21 Q. Just a couple of things, I'm like Mike, I'm trying to get a  
22 couple of things clarified. [REDACTED], when we're talking about what  
23 gets sent out immediately it's -- we're talking about subject  
24 indicator characters? For example, like a character A would be a  
25 navigational warning? Character B would be meteorological

1 warnings? I think E would be a meteorological forecast? So would  
2 the warnings anything in the character AARP be broadcast  
3 immediately, or would that be held until next broadcast?

4 A. No sir, the subject indicators do not indicate whether or not  
5 it's going to be immediate broadcast. The immediate broadcast is  
6 triggered based on the product ID from the National Weather  
7 Service. The automated broadcast system is going to try to put  
8 those all the products into a certain bucket to meet a NavTex  
9 code.

10 [REDACTED] Okay, I think I've gotten it. That's it.

11 MR. RICHARDS: Okay, thank you. Mr. Cenac any questions?

12 MR. CENAC: No, sir, very informative, thank you.

13 MR. RICHARDS: Thank you. Ms. Huffman any questions?

14 MS. HUFFMAN: I do have a few questions.

15 BY MS. HUFFMAN:

16 Q. As it comes to the marine weather statements, does the  
17 Watchstander actually see what's included in those products before  
18 transmitting?

19 A. They have the ability to access the actual text, but  
20 generally we would not -- we have too much information flow to  
21 read every message.

22 Q. Understandable. So, is it possible that these marine weather  
23 statements that maybe pertained to special marine warnings that  
24 have already expired, or are no longer in effect are actively  
25 being broadcast? You know sometimes days after the actual special

1 marine warning was issued?

2 A. Depending on the intricacies of the several steps when it  
3 gets here, yes that's possible. You could be broadcasting old  
4 information.

5 The -- but generally, the fact that we are only broadcasting  
6 those marine weather statements once during the scheduled  
7 broadcast and then they're being deleted, and the special marine  
8 warnings upon receipt, and then during the next scheduled  
9 broadcast and then they're being deleted, tend to keep the queues  
10 fairly clean.

11 MS. HUFFMAN: Okay. That concludes the questions that I  
12 have.

13 MR. RICHARDS: Okay, thank you.

14 BY MR. RICHARDS:

15 Q. Just to confirm, or clarify, [REDACTED], when you receive a special  
16 marine warning it's broadcast immediately, and then it's broadcast  
17 once more during the next regularly scheduled broadcast window,  
18 and then it is deleted? Did I understand you correctly?

19 A. Yes, I believe that is the character configuration for those.

20 Q. Okay, thank you. Okay, I think we're getting closer, close  
21 to wrapping up. I want to go through the rest of this day on this  
22 sheet and understand what happened a bit later in the day. Back  
23 to the server log document from April 13th, we went through the  
24 time block that ended at 01:36 Zulu, looks like there's another  
25 time block from 05:00 to 05:13 Zulu that corresponds to a

1 regularly scheduled broadcast, and I can see the OFFNO6 product is  
2 broadcast then. Same with the 9 o'clock to 902 Zulu although it  
3 looks like in this broadcast block, the NavTex' -- the Gulf of  
4 Mexico's NavTex product isn't broadcast in here it looks like it's  
5 just a Coast Guard type, an advisory type message. Does that look  
6 correct to you?

7 A. Yes, that appears to be what occurred.

8 Q. Okay, and then again to the 13:00 to 13:22 block, that looks  
9 straight forward. And then we get to 15:07 Zulu, this next line.  
10 I -- based on what we'd seen in this log before, the next time I  
11 would have expected to pop up would have been about 17:00 Zulu  
12 which is when the next broadcast was scheduled, next routine  
13 broadcast was scheduled for, but we see something pop up at  
14 15:07:12 Zulu, it's got this letter in the fourth column, it says  
15 halting broadcast due to halt broadcast request. So, if you could  
16 pick us up here, and step us through the rest of the lines and  
17 explain what's going on, that would be great.

18 A. I can't -- I'm speculating a little bit on exactly what this  
19 means because I can't say that I know exactly, I did not code the  
20 program so I can't decode all the messages with 100 percent  
21 certainty, but it appears at this time that there was a manual  
22 transmit request, and the broadcast -- the OFFNO6 was sent out at  
23 that time.

24 Q. So, I'm talking about the timestamp of 15:07:12 Zulu, where  
25 it says halting broadcast due to halt broadcast request.



1 A. Yeah, it wasn't broadcasting at that time, so I don't know  
2 exactly why -- what would have, what button push, or system event  
3 would actually cause that error, or that information message to  
4 come out.

5 Q. So, at 15:07:12 this message comes out, says halting  
6 broadcast due to halt broadcast request, we don't know -- do we  
7 know what's going on here? As far as the New Orleans NavTex  
8 broadcast goes? The message suggests that the broadcast is  
9 halting. Is that what this means?

10 A. I mean, yes, that is what that message indicates, but there  
11 was no active broadcast at that time.

12 Q. Okay.

13 A. So, I think it's probably important at this point to give  
14 some context about some other things that were going on with the  
15 -- during this period.

16 Q. Please.

17 A. Because, so -- in preparation for today I did go back and I  
18 looked through our records on notices that we've provided to  
19 maritime public about the operation of our broadcast services.  
20 So, on the 7th of April, there was a -- there were issues with New  
21 Orleans, and so there was a message released to the NGA, or  
22 Nav-area-4 message, to be to be released to the public via  
23 satellite to notify that we are -- New Orleans transmit services  
24 were degraded.

25 There were network issues that were reported to Verizon on

1 April 13th, at 1516 Zulu, and appear to have been restored by 0100  
2 Zulu.

3 Q. On the 14th?

4 A. Yes, yes. The Watchstanders were working through some  
5 things. Additionally, our -- down in New Orleans, didn't find an  
6 issue affecting one of the MF transmitters on April 16th. So,  
7 outside of that, Watchstander was working through some issues with  
8 the site. I don't know exactly what button pushes, or system  
9 event, would cause this particular halting broadcast due to halt  
10 broadcast request.

11 Q. Okay.

12 A. But it appears at that time, they attempted to send out or  
13 did send out the OFFN06, at 15:16 Zulu, and that would be  
14 consistent with troubleshooting something at the site.

15 Q. Okay. Couple things to step through here. One is I believe  
16 you said April 7th, there was a message that was sent regarding  
17 degraded service. Who sent that message?

18 A. Our Watchstanders sent a message, a communications services  
19 advisory to NGA and to the Coast Guard saying that we had degraded  
20 services at the New Orleans. They were experiencing issues.

21 Q. Degraded NavTex services?

22 A. Just the -- it was more to cover the whole site.

23 Q. Okay.

24 A. They were having -- I believe they were having issues with  
25 the Verizon services to the site. So, the way that our audio, or

1 the signal gets to the site from Chesapeake.

2 Q. And --

3 A. And then intermittent issues continued all the way until the  
4 13th -- 16th, excuse me.

5 Q. okay. And just help me out, NGA is, that's November Gulf  
6 Alpha?

7 A. Yeah, National Geospatial Agency. So, they're the ones that  
8 original the navigational safety and March broadcast.

9 Q. Right, of which NavTex did -- well, NavTex is MRSC (ph.), but  
10 NavTex is part of GMDSS, right?

11 A. Right, so the satellite base GMDSS broadcast.

12 Q. And this message was sent to the Coast Guard in the NGA, do  
13 you know if any information was sent publicly, regarding  
14 degradation of services?

15 A. Yes, the NGA did issue a Nav Area 4 saying that New Orleans  
16 was affected, degraded during this period. So, they did issue a  
17 Nav Area 4 message for that, which is the correct area for this.

18 Q. Okay. Any other public advisories or awareness that you know  
19 of?

20 A. No, that wouldn't -- not that I'm aware of.

21 Q. Okay. Do you have copies of the message that was sent by the  
22 Watchstanders and as well as what went out from the NGA?

23 A. I can provide you a copy of what's sent out from the Watch  
24 Center, I do not have a copy of what went out from the NGA.

25 Q. Okay. We'll make a request from the Coast Guard for that,

1 thank you very much. Then, on the 14th -- I'm sorry on the 13th,  
2 of April, I think you said at 15:16 Zulu something happened, and  
3 what happened at that time?

4 A. Reading the log it appears that the Watchstander triggered a  
5 manual broadcast of the OFFN06 broadcast, which would be  
6 consistent with the -- trying to troubleshoot something at the  
7 site.

8 Q. Okay. From these logs do you know if that broadcast was  
9 successful?

10 A. I do not.

11 Q. Okay. Because it looks similar to the previous logs of that  
12 which we presume to be successful. Okay. There was a period  
13 between about this time, 1500 or so to 10 the next day, 0100 on  
14 the 14th, and what was going on during this window? Or what  
15 wasn't going on during this window? Perhaps that's a better way  
16 to ask it.

17 A. During this time, they were troubleshooting both with the  
18 technicians at the site, and with Verizon for the audio lines that  
19 go to that site.

20 Q. And then --

21 A. So --

22 Q. Go ahead.

23 A. It -- Verizon that was open, I could provide you the Verizon  
24 ticket number if you think that would help.

25 Q. Okay. We may include that in a request. On the 16th, do I

1 understand correctly you said the degradation of services ended?

2 A. On the 16th, during maintenance the technicians at the site  
3 found an issue with the -- cell transmitter, I don't know that --  
4 I'd be speculating to say that was affecting anything --

5 Q. Okay.

6 A. I'm just saying here for completeness.

7 Q. We have -- I'm going to kind of toggle between the server  
8 logs on the 13th -- the logs on the 13th, and then the 14th that  
9 you sent. If we could jump to the 14th, real quick. Do you have  
10 that sheet in front of you? On the top, the first broadcast is at  
11 1 Zulu and 27 seconds. Just to my eye, based on what you've  
12 taught me, it looks like beginning at this time, and for the rest  
13 of this log, services look routine, and as they did in the earlier  
14 part of the 13th. Were services -- were NavTex broadcast services  
15 normally on the 14th?

16 A. Yes, that is what it appears to be from the log. The issues  
17 that we've been experiencing with New Orleans with the Verizon  
18 were intermittent, so yes. It appears that whatever Verizon did  
19 seems to have recovered the system to the point where we were  
20 flowing again by 01:00.

21 Q. Okay. So, between 15:00, let's say, and 0100 on the 14th.  
22 15:00 on the 13th, 01:00 on the 14th, Zulu. Were there any  
23 broadcasts going out via NavTex, New Orleans?

24 A. I can't state with any degree of certainty whether or not  
25 there was any broadcast. It appears that the only one that could

1 have potentially gone out with would be at 15:17, sorry 15:16:59  
2 Zulu OFF-N-06.

3 Q. Okay, and to be clear, you were -- the Coast Guard -- was the  
4 Coast Guard receiving weather information from the Navy as normal  
5 during this time?

6 A. I have no record of anything but it being normal.

7 Q. Okay, and the -- your system was processing the information  
8 for broadcast correctly. Is that right?

9 A. As far as I'm aware.

10 Q. Okay, so the issue would have been with the local broadcast?

11 A. Yes, the issue would have been with the connection with the  
12 site precluding the system being able to send a broadcast out.

13 Q. Okay. Are there any other logs in this log that we're  
14 looking at for the 13th, between 15:00 Zulu and the end of the  
15 day, anything else in here that you think identifies something of  
16 interest? Some that's -- would be insightful for us? Anything  
17 that's meaningful to you?

18 A. No, it appears that there were issues with the system at the  
19 time.

20 Q. Okay. Do you -- during a period like this, I understand on  
21 the 7th, there was awareness -- okay, let me ask you this, was the  
22 7th, the earliest known awareness of this degradation of service?

23 A. Sorry, can you repeat the question?

24 Q. On the 7th, you said the Watchstander sent out a message  
25 regarding degradation of services. Do you know of any awareness

1 that existed prior to the 7th, of April about this degradation of  
2 service?

3 A. No sir, I'm not.

4 Q. Okay. Is there any communication that's done directly from  
5 your shop with local -- let's say sector New Orleans regarding  
6 this? Any direct communication?

7 A. No. Generally, they may be included on our -- advisories,  
8 I'd have to look at the -- exactly -- it's a distribution group  
9 basically, so I'm not exactly sure who's overseeing it, but it  
10 should be -- they should be receiving it that way.

11 Q. Okay, but aside from being on a distribution list are you  
12 aware of any direct communication between your shop and sector New  
13 Orleans, let's say on the 13th, of April regarding this outage?

14 A. No. Generally, the sectors are operating in C Area 1, and we  
15 are not operating in C Area 1, so we don't generally directly  
16 converse with them.

17 Q. Oh, okay. See I'm not Coast Guard so that probably goes over  
18 my head a bit, I don't understand how that works, okay. How often  
19 does this -- does this type of let's call it degradation of  
20 service, how often would you say this happens in New Orleans?  
21 Have you seen this happen before in New Orleans, let me ask you  
22 that.

23 A. Yeah, I don't have a calculation on exactly how often, but it  
24 has happened before, yes.

25 Q. Okay. Do you recall the last time the service went -- NavTex

1 service went down in New Orleans?

2 A. I have -- I can't recall exactly, an exact time frame.

3 Q. Okay. I think -- I have a question for you but I think it's  
4 most appropriate to address that to sector, I'm not sure you could  
5 answer that, so I won't ask. Let me go ahead and pause, I think  
6 I've asked most of the questions that I want to. Let me go around  
7 the room again and see if anyone has any additional questions for  
8 you at this time. Let me start with Captain Kucharski, NTSB.

9 BY CPT. KUCHARSKI:

10 Q. Thank you, sir. Thank you Chief Warrant Officer [REDACTED], this  
11 has been extremely helpful, extremely helpful, thanks for your  
12 time on this. So, back to the degradation of equipment, so it was  
13 specifically at Sector New Orleans, their broadcast facility, is  
14 that what it was?

15 A. Yes, sir. Our broadcast facilities in I believe Belle  
16 Chasse, Louisiana, is not co-located with the sector.

17 Q. Okay, so it was in Belle Chasse, that the -- that equipment,  
18 there was some kind of a degradation? Is that correct?

19 A. Yes. Something between Chesapeake, Virginia and the transmit  
20 site in Louisiana, yeah, it could have been equipment at the site,  
21 it could have been network issues in between, or it even could  
22 have been equipment at Chesapeake.

23 Q. Okay, thank you. No further questions, thank you.

24 MR. RICHARDS: Okay, thank you. Marcel?

25 MR. MUISE: I have nothing else to (indiscernible).



1 MR. RICHARDS: Captain Phillips, you're back with us. Do you  
2 have any questions?

3 BY CPT. PHILLIPS:

4 Q. Good afternoon, thank you. Yes, sorry about that I had  
5 trouble with my phone on the last round of questioning. This is  
6 Tracy Phillips. Chief Warrant Officer [REDACTED], thanks, I agree with  
7 what the previous folks have said, this has been really helpful.  
8 This goes back a while. You were talking about an agreement  
9 between the Coast Guard, and I think you said NOAA about what  
10 products the Coast Guard will and will not broadcast. Is that  
11 what I heard?

12 A. Yes, Captain.

13 Q. Okay. Is that agreement a written agreement? Or is that  
14 just something that the two organizations agreed to notionally?

15 A. It is a documented agreement. There is a -- I believe there  
16 is a signed agreement between and there is also a product list  
17 that -- I can provide that to you.

18 CPT. PHILLIPS: That would be really helpful, thank you.  
19 Yeah, I'd like to see those. That's all I have, thanks.

20 MR. RICHARDS: Okay. Thank you, let me go back to Captain  
21 Kucharski. Do you have a follow up?

22 BY CPT. KUCHARSKI:

23 Q. I do, please. Chief Warrant Officer [REDACTED], so if I'm  
24 understanding correctly, back to this coding and what gets sent  
25 out as a NavTex, but the coding and the message first has to be

1 sent to Fleet Weather Center in Norfolk; is that correct? From  
2 the National Weather Service Centers?

3 A. Yes, sir. I don't have a lot of eyesight on exactly how that  
4 occurs. I don't know if that if it's something where the Fleet  
5 Weather Center is actually actively reaching out through the  
6 National Weather Service and grabbing those products, or they're  
7 sent to them. But, yes, it has to -- if it doesn't come to us in  
8 message traffic, the system here will not process anything.

9 Q. Okay. So, it's separate --

10 A. Let me try to help you out -- it's the -- The Watchstander  
11 has the ability to manually input messages if that system breaks  
12 down.

13 Q. Understood, understood. But I'm seeing how this chain works.  
14 Let's take a hypothetical. The National Weather Service says has  
15 a special marine -- an urgent warning, requesting urgent  
16 broadcast. SWLIX is in the -- as an addressee, without you --  
17 necessarily go to NavTex, to it has to go to the Navy Fleet  
18 Weather Center, do they have to be at this address line in order  
19 for them to be sent to the Coast Guard, to your good selves to  
20 then be pushed out to the SWLIX as a NavTex?

21 A. I -- so sir, again, I'm not 100 percent sure how plugged in  
22 the National Weather Service is into the T2IX or records messaging  
23 system. But, if they have the ability to address that traffic  
24 directly to the weather circuit, that could occur that way. But I  
25 believe that the Fleet Weather Center is the mechanism for that to

1 happen.

2 Q. Okay, okay. And could the National Weather Service send  
3 something directly to your office -- I say your office, you know  
4 whatever your address is, that you would push it out as a NavTex?  
5 Or, does it have to -- are we talking about just about weather?  
6 Or does -- does all weather from -- all weather warnings from the  
7 National Weather Service, are they all routed through the Fleet  
8 Weather Center? That's the questions here.

9 A. Sir, I can say with some degree of certainty I believe that's  
10 what happened, but I'm not 100 percent, sir. There could be  
11 another mechanism for us to get weather messages that is occurring  
12 that I'm not aware of.

13 Q. Okay. I'm sorry for the detailed questions. Is there  
14 someone else there at the Coast Guard, the -- at your center there  
15 in Chesapeake that would answer that question? Who would we ask  
16 that question of for just specifically for special marine warnings  
17 related to weather?

18 A. For full mechanisms of transmission to the Coast Guard of  
19 weather, you'd have to talk to our C5I service center. The  
20 engineering folks that the exactly need to tell you exactly what  
21 circuit flows are set up with the Coast Guard.

22 CPT. KUCHARSKI: Okay, thank you very much, thank you.

23 MR. RICHARDS: Okay, thank you. [REDACTED], any questions?

24 [REDACTED]: No questions, thank you.

25 MR. RICHARDS: Thank you. [REDACTED]?

1       [REDACTED]: I have no questions. Thank you. This has been  
2 very informative.

3       MR. RICHARDS: Okay. Thank you. Mr. Cenac?

4       MR. CENAC: No sir, thank you.

5       MR. RICHARDS: Thank you. Ms. Huffman, any questions?

6       MS. HUFFMAN: Just one final question. For mariners is there  
7 any training on what messages they receive on NavTex particularly  
8 as it relates to weather, or is that just something it's up to  
9 them to know and seek out those resources?

10       CWO [REDACTED]: Ma'am, I don't know of any specific for mariners  
11 on NavTex or GMDSS, so I do know that the information is published  
12 -- publicized, on how to set up your stuff.

13       MS. HUFFMAN: Okay, thank you.

14       MR. RICHARDS: Okay, [REDACTED] I think we can wrap up now. I just  
15 have one last thing to ask you with regard to NavTex.

16       BY MR. RICHARDS:

17 Q. Do you know -- this could be either at the National, Coast  
18 Guard level, or at a more local level, is there any sort of  
19 mitigation procedure for NavTex outages, making sure users get the  
20 more important information, I don't know what the criteria would  
21 be. But, I'm thinking of like, is there a procedure, by which  
22 information will be relayed via VHF if they know the NavTex is  
23 down? Is there any type of backup plan if NavTex goes down to get  
24 weather information to mariners that you're aware of.

25 A. Yes, sir. So, for Sea Area A1, so in that Unclog group

1 there's also agreements for what weather and is going to be  
2 broadcast (indiscernible) here or one on VHF, and those would be  
3 broadcast by those sectors, and those are -- those special marine  
4 warnings are also included in those broadcasts that are being sent  
5 by the sector.

6 Q. Okay. I would like to get that document. Do you know the  
7 name of that document, what we should request to see? What that's  
8 called?

9 A. I will provide the document to you or Captain Phillips at the  
10 conclusion of this call. I have a copy of it.

11 Q. That's great. Let me -- thank you. Let me ask, Captain  
12 Phillips, just so we're clear, there's a handful of items that [REDACTED]  
13 said he would be able to provide us, and I'd like to request that.  
14 Is that something that I should just send through our IICT to you  
15 is that best way to do it? Okay, we may have lost Captain  
16 Phillips again, that's fine. I'll -- we'll discuss that offline,  
17 that shouldn't be an issue. Okay, [REDACTED], if you could keep that  
18 document handy, I will request it in the best words I know how to  
19 use. Okay. That's it for me, does anybody else on the phone --

20 A. It's called the Unclog document, I know what you're talking  
21 about.

22 MR. RICHARDS: The Unclog doc, thank you. Does anybody else  
23 on this phone, on this phone call have any final questions for  
24 Mr. [REDACTED] before we let him go?

25 Okay, hearing none, [REDACTED] is there anything else that you

1 think we should know, that we forgot to ask, anything you think is  
2 important here as we're trying to solve this mystery or any  
3 questions you have for us?

4 CWO [REDACTED] No, I don't have any questions at this time. I'd  
5 be glad to answer further questions as you have them.

6 MR. RICHARDS: Okay. Thank you. So, we're going to end this  
7 interview. I'm going to go off the record at 3:37 p.m. Central  
8 Daylight Time.

9 (Whereupon, at 3:37 p.m., the interview was concluded.)  
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CERTIFICATE

This is to certify that the attached proceeding before the

NATIONAL TRANSPORTATION SAFETY BOARD


IN THE MATTER OF:           CAPSIZING OF THE LIFTBOAT *SEACOR*  
                                  *POWER* SOUTH OF PORT FOURCHON,  
                                  LOUISIANA, ON APRIL 13, 2021  
                                  Interview of Timothy Horne

ACCIDENT NO.:               DCA21MM024

PLACE:                       Via Telephone

DATE:                        June 15, 2021

was held according to the record, and that this is the original,  
complete, true and accurate transcript which has been transcribed  
to the best of my skill and ability.

  
Brittany Hay  
Transcriber



# National Transportation Safety Board

Washington, D.C. 20594

## Transcript Errata

### TABLE OF CORRECTIONS FOR TRANSCRIPT INTERVIEW WITH: [REDACTED]

RECORDED ON June 15, 2021

PAGE NUMBER	LINE NUMBER	CURRENT WORDING	CORRECTED WORDING
10	22	broadcast tube	broadcast queue
10	25	air fuel 1000	ARQ1000
11	1	zero port	serial port
11	5	small cell transmitter	MF (medium frequency) transmitter
12	9	no person	the only person
12	23	me to	immediate
13	18	method	message
13	21	front two daytime...has a daytime	from/to date-time...has a date-time
14	11	-- where --	UNCLOG where it's agreed upon
15	7	sense	record
17	8	four-to-ten-minute	forty minute
23	14	broadcast those matters	broadcast notice to mariners
23	17	nine NavTex MS...five HS sites.	nine NavTex MF...five HF sites.
31	7	TMX	transmit
31	20	broadcast to us mariners	broadcast notice to mariners
32	10	its --- all	it's decrementing all

If, to the best of your knowledge, no corrections are needed kindly circle the statement "no corrections needed" and initial in the space provided.

NO CORRECTIONS NEEDED.

\_\_\_\_\_  
Initials

CWO [REDACTED], USCG

\_\_\_\_\_  
Printed Name of Person providing the above information

\_\_\_\_\_  
Signature of Person providing the above information

7/22/2021

\_\_\_\_\_  
Date





# National Transportation Safety Board

Washington, D.C. 20594

## Transcript Errata

### TABLE OF CORRECTIONS FOR TRANSCRIPT INTERVIEW WITH: [REDACTED]

RECORDED ON June 15, 2021

PAGE NUMBER	LINE NUMBER	CURRENT WORDING	CORRECTED WORDING
38	19	character	current
40	15	-- during the period	site during this period
41	5	our -- down in New Orleans, didn't	our technicians down in New Orleans, did
46	14-15	C Area 1	Sea Area 1
49	3	eyesight	insight
49	22	T2IX	C2OIX

If, to the best of your knowledge, no corrections are needed kindly circle the statement "no corrections needed" and initial in the space provided.

NO CORRECTIONS NEED. \_\_\_\_\_  
Initials

CWO [REDACTED], USCG  
\_\_\_\_\_  
Printed Name of Person providing the above information

\_\_\_\_\_  
Signature of Person providing the above information

7/22/2021  
\_\_\_\_\_  
Date

# LogServer Logs: 04-13-21

**Print : All Logs**

**Computer : C3CCW-NCWO**

**DataBase : \\C3CCW-NCWO\LogServerLogs\Log\_04-13-2021.accdb**

**Query : Select \* from Logs WHERE (CKT = 'G-NAVTEX') ORDER BY LogNum DESC**

INF	G-NAVTEX	U R	Scheduled Broadcast started	04/13 01:00:27Z
XMT	G-NAVTEX	U R	O 122111Z APR 21 F MSG BCST: OFFN06-NAVTEX-GE17.	04/13 01:07:15Z
XMT	G-NAVTEX	U R	O 111353Z APR 21 F MSG BCST: MWSLIX-NAVTEX-GB54.	04/13 01:11:53Z
INF	G-NAVTEX	U R	MSG DELETED: MWSLIX-NAVTEX-GB54.	04/13 01:11:53Z
XMT	G-NAVTEX	U R	O 111421Z APR 21 F MSG BCST: MWSTAE-NAVTEX-GB64.	04/13 01:15:39Z
INF	G-NAVTEX	U R	MSG DELETED: MWSTAE-NAVTEX-GB64.	04/13 01:15:40Z
XMT	G-NAVTEX	U R	O 111419Z APR 21 F MSG BCST: MWSBRO-NAVTEX-GB03.	04/13 01:19:58Z
INF	G-NAVTEX	U R	MSG DELETED: MWSBRO-NAVTEX-GB03.	04/13 01:19:58Z
XMT	G-NAVTEX	U R	O 102017Z APR 21 F MSG BCST: MWSTBW-NAVTEX-GB49.	04/13 01:24:29Z
INF	G-NAVTEX	U R	MSG DELETED: MWSTBW-NAVTEX-GB49.	04/13 01:24:29Z
XMT	G-NAVTEX	U R	O 101333Z APR 21 F MSG BCST: MWSMOB-NAVTEX-GB16.	04/13 01:32:24Z
INF	G-NAVTEX	U R	MSG DELETED: MWSMOB-NAVTEX-GB16.	04/13 01:32:25Z
XMT	G-NAVTEX	U R	P 121225Z APR 21 C MSG BCST: P-121225Z-APR-21-NAVTEX-GA17.	04/13 01:34:02Z
XMT	G-NAVTEX	U R	P 081221Z APR 21 C MSG BCST: P-081221Z-APR-21-NAVTEX-GA01.	04/13 01:36:22Z
INF	G-NAVTEX	U R	Broadcast ended	04/13 01:36:39Z
INF	G-NAVTEX	U R	STARTING BROADCAST SETUP	04/13 01:36:39Z
INF	G-NAVTEX	U R	Scheduled Broadcast started	04/13 05:00:27Z
XMT	G-NAVTEX	U R	O 130231Z APR 21 F MSG BCST: OFFN06-NAVTEX-GE20.	04/13 05:10:36Z
INF	G-NAVTEX	U R	MSG DELETED: P-121225Z-APR-21-NAVTEX-GA17.	04/13 05:10:41Z
XMT	G-NAVTEX	U R	P 081221Z APR 21 C MSG BCST: P-081221Z-APR-21-NAVTEX-GA01.	04/13 05:12:56Z
INF	G-NAVTEX	U R	Broadcast ended	04/13 05:13:13Z
INF	G-NAVTEX	U R	STARTING BROADCAST SETUP	04/13 05:13:13Z
INF	G-NAVTEX	U R	Scheduled Broadcast started	04/13 09:00:28Z
XMT	G-NAVTEX	U R	P 081221Z APR 21 C MSG BCST: P-081221Z-APR-21-NAVTEX-GA01.	04/13 09:02:42Z
INF	G-NAVTEX	U R	Broadcast ended	04/13 09:02:58Z
INF	G-NAVTEX	U R	STARTING BROADCAST SETUP	04/13 09:02:59Z
INF	G-NAVTEX	U R	Scheduled Broadcast started	04/13 13:00:27Z
XMT	G-NAVTEX	U R	O 130757Z APR 21 F MSG BCST: OFFN06-NAVTEX-GE21.	04/13 13:09:33Z
XMT	G-NAVTEX	U R	O 130823Z APR 21 F MSG BCST: MWSBRO-NAVTEX-GB93.	04/13 13:13:59Z
INF	G-NAVTEX	U R	MSG DELETED: MWSBRO-NAVTEX-GB93.	04/13 13:13:59Z
XMT	G-NAVTEX	U R	O 130739Z APR 21 F MSG BCST: MWSCR-NAVTEX-GB94.	04/13 13:17:28Z
INF	G-NAVTEX	U R	MSG DELETED: MWSCR-NAVTEX-GB94.	04/13 13:17:28Z
XMT	G-NAVTEX	U R	P 131300Z APR 21 C MSG BCST: P-131300Z-APR-21-NAVTEX-GA77.	04/13 13:19:51Z
XMT	G-NAVTEX	U R	P 081221Z APR 21 C MSG BCST: P-081221Z-APR-21-NAVTEX-GA01.	04/13 13:22:09Z

[\\C3CCW-NCWO\LogServerLogs\Log\_04-13-2021.accdb]

[Printed: April 30, 2021 15:14:00Z]

INF	G-NAVTEX	U R	Broadcast ended	04/13 13:22:26Z
INF	G-NAVTEX	U R	STARTING BROADCAST SETUP	04/13 13:22:26Z
INF	G-NAVTEX	U O	Halting broadcast due to halt broadcast request	04/13 15:07:12Z
INF	G-NAVTEX	U R	STARTING BROADCAST SETUP	04/13 15:07:24Z
INF	G-NAVTEX	U R	Handling Manual xmit request	04/13 15:08:39Z
ERC	G-NAVTEX	U Z 0	UNABLE TO ALLOCATE RESOURCES FOR BROADCAST, SET UP MANUALLY AND SEND COMMAND TO START	04/13 15:08:39Z
XMT	G-NAVTEX	U R O	131441Z APR 21 F MSG BCST: OFFN06-NAVTEX-GE22.	04/13 15:16:59Z
INF	G-NAVTEX	U R	Completed Handling Manual xmit request.	04/13 15:17:16Z
ERC	G-NAVTEX	U O 0	UNABLE TO SWITCH HAL	04/13 21:00:03Z
ERC	G-NAVTEX	U O 0	Could not set modem into FEC mode	04/13 21:00:03Z
ERC	G-NAVTEX	U Z 0	Could not set device into bcst mode. BROADCAST MISSED.	04/13 21:00:04Z
INF	G-NAVTEX	U R	STARTING BROADCAST SETUP	04/13 21:00:04Z

# LogServer Logs: 04-14-21

**Print : All Logs**

**Computer : C3CCW-NCWO**

**DataBase : \\C3CCW-NCWO\LogServerLogs\Log\_04-14-2021.accdb**

**Query : Select \* from Logs WHERE (CKT = 'G-NAVTEX') ORDER BY LogNum DESC**

INF	G-NAVTEX	U R	Scheduled Broadcast started	04/14 01:00:27Z
XMT	G-NAVTEX	U R	O 132043Z APR 21 F MSG BCST: OFFN06-NAVTEX-GE55.	04/14 01:08:41Z
XMT	G-NAVTEX	U R	O 140035Z APR 21 F MSG BCST: MWSLIX-NAVTEX-GB59.	04/14 01:12:48Z
INF	G-NAVTEX	U R	MSG DELETED: MWSLIX-NAVTEX-GB59.	04/14 01:12:48Z
XMT	G-NAVTEX	U R	O 132359Z APR 21 F MSG BCST: MWSLCH-NAVTEX-GB43.	04/14 01:17:32Z
INF	G-NAVTEX	U R	MSG DELETED: MWSLCH-NAVTEX-GB43.	04/14 01:17:32Z
XMT	G-NAVTEX	U R	O 132355Z APR 21 F MSG BCST: SMWLCH-NAVTEX-GB51.	04/14 01:23:04Z
INF	G-NAVTEX	U R	MSG DELETED: SMWLCH-NAVTEX-GB51.	04/14 01:23:04Z
XMT	G-NAVTEX	U R	O 132309Z APR 21 F MSG BCST: SMWLIX-NAVTEX-GB47.	04/14 01:29:43Z
INF	G-NAVTEX	U R	MSG DELETED: SMWLIX-NAVTEX-GB47.	04/14 01:29:43Z
XMT	G-NAVTEX	U R	O 132241Z APR 21 F MSG BCST: SMWMOB-NAVTEX-GB67.	04/14 01:35:03Z
INF	G-NAVTEX	U R	MSG DELETED: SMWMOB-NAVTEX-GB67.	04/14 01:35:03Z
XMT	G-NAVTEX	U R	O 131807Z APR 21 F MSG BCST: MWSCR-NAVTEX-GB69.	04/14 01:38:40Z
INF	G-NAVTEX	U R	MSG DELETED: MWSCR-NAVTEX-GB69.	04/14 01:38:40Z
INF	G-NAVTEX	U R	MSG MISSED BCST: MWSBRO-NAVTEX-GB52.	04/14 01:38:45Z
XMT	G-NAVTEX	U R	P 131943Z APR 21 C MSG BCST: P-131943Z-APR-21-NAVTEX-GA28.	04/14 01:39:28Z
INF	G-NAVTEX	U R	MSG MISSED BCST: P-131836Z-APR-21-NAVTEX-GA29.	04/14 01:39:33Z
INF	G-NAVTEX	U R	MSG DELETED: P-131300Z-APR-21-NAVTEX-GA77.	04/14 01:39:33Z
INF	G-NAVTEX	U R	MSG MISSED BCST: P-081221Z-APR-21-NAVTEX-GA01.	04/14 01:39:33Z
INF	G-NAVTEX	U R	Broadcast ended	04/14 01:39:44Z
INF	G-NAVTEX	U R	STARTING BROADCAST SETUP	04/14 01:39:45Z
INF	G-NAVTEX	U R	Scheduled Broadcast started	04/14 05:00:27Z
XMT	G-NAVTEX	U R	O 140231Z APR 21 F MSG BCST: OFFN06-NAVTEX-GE24.	04/14 05:07:38Z
XMT	G-NAVTEX	U R	O 131803Z APR 21 F MSG BCST: MWSBRO-NAVTEX-GB52.	04/14 05:12:03Z
INF	G-NAVTEX	U R	MSG DELETED: MWSBRO-NAVTEX-GB52.	04/14 05:12:03Z
XMT	G-NAVTEX	U R	P 131836Z APR 21 C MSG BCST: P-131836Z-APR-21-NAVTEX-GA29.	04/14 05:12:55Z
XMT	G-NAVTEX	U R	P 081221Z APR 21 C MSG BCST: P-081221Z-APR-21-NAVTEX-GA01.	04/14 05:15:14Z
XMT	G-NAVTEX	U R	P 131943Z APR 21 C MSG BCST: P-131943Z-APR-21-NAVTEX-GA28.	04/14 05:16:02Z
INF	G-NAVTEX	U R	Broadcast ended	04/14 05:16:18Z
INF	G-NAVTEX	U R	STARTING BROADCAST SETUP	04/14 05:16:19Z
INF	G-NAVTEX	U R	Scheduled Broadcast started	04/14 09:00:28Z
XMT	G-NAVTEX	U R	P 131943Z APR 21 C MSG BCST: P-131943Z-APR-21-NAVTEX-GA28.	04/14 09:01:11Z
XMT	G-NAVTEX	U R	P 131836Z APR 21 C MSG BCST: P-131836Z-APR-21-NAVTEX-GA29.	04/14 09:02:04Z
XMT	G-NAVTEX	U R	P 081221Z APR 21 C MSG BCST: P-081221Z-APR-21-NAVTEX-GA01.	04/14 09:04:23Z

[\\C3CCW-NCWO\LogServerLogs\Log\_04-14-2021.accdb]



[Printed: April 30, 2021 15:14:46Z]








INF	G-NAVTEX	U R Broadcast ended	04/14 09:04:39Z
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INF	G-NAVTEX	U R STARTING BROADCAST SETUP	04/14 09:04:40Z
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U.S. Coast Guard NEW ORLEANS, LA NWS Marine Weather Products Broadcast Via NAVTEX (Identifier G)	
Broadcast Schedule : 0100/0500Z/0900Z/1300Z/1700Z/2100Z	
OFFN06	NAVTEX Forecast, Gulf of Mexico
SMWTBW	Special Marine Warning* - Tampa, FL
SMWTAE	Special Marine Warning* - Tallahassee, FL
SMWMOB	Special Marine Warning* - Mobile, AL
SMWLIX	Special Marine Warning* - New Orleans, LA
SMWLCH	Special Marine Warning* - Lake Charles, LA
SMWHGX	Special Marine Warning* - Houston/Galveston, TX
SMWCRP	Special Marine Warning* - Corpus Christi, TX
SMWBRO	Special Marine Warning* - Brownsville, TX
MWSTBW	Marine Weather Statement* - Tampa, FL
MWSTAE	Marine Weather Statement* - Tallahassee, FL
MWSMOB	Marine Weather Statement* - Mobile, AL
MWSLIX	Marine Weather Statement* - New Orleans, LA
MWSLCH	Marine Weather Statement* - Lake Charles, LA
MWSHGX	Marine Weather Statement* - Houston/Galveston, TX
MWSCRP	Marine Weather Statement* - Corpus Christi, TX
MWSBRO	Marine Weather Statement* - Brownsville, TX
TSUAT1	Tsunami Advisory/Watch/Warning*
TSUATE	Tsunami Public Message*
*Non-Routine, event driven product	

[JEM :: NWS Text Product Finder \(iastate.edu\)](#) <- NWS Product archive from Iowa State University. Files are named with actual DTG of product. COMMCOM receives message traffic from Fleet Weather Center so DTG of record message is usually a minute or two behind the NWS product release time.

INF	Scheduled Broadcast started	04/13	05:00:27Z	
XMT	O 130231Z APR 21 F MSG BCST: OFFN06-NAVTEX-GE20.	04/13	05:10:36Z	 OFFN06_130229Z.tx t
INF	MSG DELETED: P-121225Z-APR-21-NAVTEX-GA17.	04/13	05:10:41Z	
XMT	P 081221Z APR 21 C MSG BCST: P-081221Z-APR-21- NAVTEX-GA01.	04/13	05:12:56Z	Unable to locate product
INF	Broadcast ended (2 products, 13 min)	04/13	05:13:13Z	
INF	Scheduled Broadcast started	04/13	09:00:28Z	
XMT	P 081221Z APR 21 C MSG BCST: P-081221Z-APR-21-NAVTEX- GA01.	04/13	09:02:42Z	Unable to locate product
INF	Broadcast ended (1 products, 3 min)	04/13	09:02:58Z	
INF	Scheduled Broadcast started	04/13	13:00:27Z	
XMT	O 130757Z APR 21 F MSG BCST: OFFN06-NAVTEX-GE21.	04/13	13:09:33Z	 OFFN06_130754Z.tx t

XMT	O 130823Z APR 21 F MSG BCST: MWSBRO-NAVTEX-GB93.	04/13	13:13:59Z	 MWSBRO_130821Z.txt
INF	MSG DELETED: MWSBRO-NAVTEX-GB93.	04/13	13:13:59Z	
XMT	O 130739Z APR 21 F MSG BCST: MWSCRCP-NAVTEX-GB94.	04/13	13:17:28Z	 MWSCRCP_130738Z.txt
INF	MSG DELETED: MWSCRCP-NAVTEX-GB94.	04/13	13:17:28Z	
XMT	P 131300Z APR 21 C MSG BCST: P-131300Z-APR-21-NAVTEX-GA77.	04/13	13:19:51Z	 CCGD8_131300Z.txt
XMT	P 081221Z APR 21 C MSG BCST: P-081221Z-APR-21-NAVTEX-GA01.	04/13	13:22:09Z	Unable to locate product
INF	Broadcast ended (5 products, 22 min)	04/13	13:22:26Z	
INF	Halting broadcast due to halt broadcast request	04/13	15:07:12Z	
INF	STARTING BROADCAST SETUP	04/13	15:07:24Z	
INF	Handling Manual xmit request	04/13	15:08:39Z	
ERC	0 UNABLE TO ALLOCATE RESOURCES FOR BROADCAST, SET UP MANUALLY AND SEND COMMAND TO START	04/13	15:08:39Z	
XMT	O 131441Z APR 21 F MSG BCST: OFFN06-NAVTEX-GE22.	04/13	15:16:59Z	 OFFN06_131440Z.txt
INF	Completed Handling Manual xmit request.	04/13	15:17:16Z	
ERC	0 UNABLE TO SWITCH HAL	04/13	21:00:03Z	
ERC	0 Could not set modem into FEC mode	04/13	21:00:03Z	
ERC	0 Could not set device into bcst mode. BROADCAST MISSED.	04/13	21:00:04Z	
INF	Scheduled Broadcast started	04/14	01:00:27Z	
XMT	O 132043Z APR 21 F MSG BCST: OFFN06-NAVTEX-GE55.	04/14	01:08:41Z	 OFFN06_132040Z.txt
XMT	O 140035Z APR 21 F MSG BCST: MWSLIX-NAVTEX-GB59.	04/14	01:12:48Z	 MWSLIX_140033Z.txt
INF	MSG DELETED: MWSLIX-NAVTEX-GB59.	04/14	01:12:48Z	
XMT	O 132359Z APR 21 F MSG BCST: MWSLCH-NAVTEX-GB43.	04/14	01:17:32Z	 MWSLCH_132357Z.txt
INF	MSG DELETED: MWSLCH-NAVTEX- GB43.	04/14	01:17:32Z	

Commented [HTMO1]: There was an equipment malfunction that precluded the 1700Z/2100Z broadcasts from being sent out.

XMT	O 132355Z APR 21 F MSG BCST: SMWLCH-NAVTEX-GB51.	04/14	01:23:04Z	 SMWLCH_132353Z.txt
INF	MSG DELETED: SMWLCH-NAVTEX-GB51.	04/14	01:23:04Z	
XMT	O 132309Z APR 21 F MSG BCST: SMWLIX-NAVTEX-GB47.	04/14	01:29:43Z	 SMWLIX_132307Z.txt
INF	MSG DELETED: SMWLIX-NAVTEX-GB47.	04/14	01:29:43Z	
XMT	O 132241Z APR 21 F MSG BCST: SMWMOB-NAVTEX-GB67.	04/14	01:35:03Z	 SMWBRO_132239Z.txt
INF	MSG DELETED: SMWMOB-NAVTEX-GB67.	04/14	01:35:03Z	
XMT	O 131807Z APR 21 F MSG BCST: MWSCRIP-NAVTEX-GB69.	04/14	01:38:40Z	 MWSCRIP_131806Z.txt
INF	MSG DELETED: MWSCRIP-NAVTEX-GB69.	04/14	01:38:40Z	
INF	MSG MISSED BCST: MWSBRO-NAVTEX-GB52.	04/14	01:38:45Z	
XMT	P 131943Z APR 21 C MSG BCST: P-131943Z-APR-21-NAVTEX-GA28. (this message was a cancellation from Sector San Francisco and was not intended to be bcst at G)	04/14	01:39:28Z	 SECSF_131943Z.txt
INF	MSG MISSED BCST: P-131836Z-APR-21-NAVTEX-GA29.	04/14	01:39:33Z	
INF	MSG DELETED: P-131300Z-APR-21-NAVTEX-GA77.	04/14	01:39:33Z	
INF	MSG MISSED BCST: P-081221Z-APR-21-NAVTEX-GA01.	04/14	01:39:33Z	
INF	Broadcast ended (8 products, 40 min)	04/14	01:39:44Z	



--New Orleans, LA began experiencing issues on 07 Apr. A COMMSYS message was released NGA released a NAVAREA IV message (satellite) to notify the public:

P 071742Z APR 21

FM COGARD COMMUNICATIONS COMMAND CHESAPEAKE VA

TO AIG 11955

NGA NAVSAFETY WASHINGTON DC

AIG 11950

BT

UNCLAS

SUBJ/COMMSYS ADVISORY - HF SERVICES FOR NEW ORLEANS (NMG) DEGRADED

1. HF SERVICES FOR NEW ORLEANS (NMG) ARE DEGRADED.

2. ETR UNKNOWN. ONCE SERVICES HAVE BEEN RESTORED COMMCOM WILL ISSUE A RESTORAL MESSAGE.

3. REQUEST NGA NAVSAFETY ISSUE INMARSAT C ALERT FOR THIS OUTAGE:

NAVAREA: IV

SITES AFFECTED: NEW ORELANS (NMG)

POSITION: 29-53N 089-57W

TEXT: HF SERVICES FOR NEW ORLEANS (N ENTLY DEGRADED.

4. POC USCG COMMCOM WATCH OFFICER - .

**Richards Michael**

---

**Subject:** RE: request for information (CWO [REDACTED])

---

**From:** [REDACTED] [REDACTED]@uscg.mil>  
**Sent:** Wednesday, June 16, 2021 1:42 PM  
**To:** Richards Michael <[REDACTED]@ntsb.gov>  
**Cc:** Phillips, Tracy CAPT <[REDACTED]@uscg.mil>; Ehlers Andrew <[REDACTED]@ntsb.gov>  
**Subject:** RE: request for information (CWO [REDACTED])

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Good Afternoon,

One additional internal CG communication I could think of is our Daily Sitrep that is sent out. I've attached the one from April 8<sup>th</sup>. The first day after issues developed at New Orleans. While it doesn't specifically mention NAVTEX, the loss of transmitters at the site speaks to either an issue with the Verizon audio lines to the site or an issue with the transmit antenna matrix.

- The message sent from USCG to NGA on 7 April referenced "HF services" being degraded. Would that include NAVTEX? A Verizon issue with the audio connection to the site would also include NAVTEX.

- The NGA message indicates that services are "inoperable" which to me is different than "degraded." Do we know when New Orleans NAVTEX was working correctly during the period of 7 April to 16 April (aside from the period of ~15Z on 13 April to ~00Z on 14 April, where we believe that it wasn't)?

We know that there were several issues during this period. There were issues with audio lines that would have affected NAVTEX. These audio lines go to both the receive and transmit sites. Unfortunately our watch can only tell when the NAVTEX system is completely operational. There can exist an outage of receive audio that makes it impossible to verify that the broadcast is going out.

- Do you have a copy of the "restoral message" from COMMCOM?

The degradation advisory is still in effect. The site is still having intermittent issues with both receive and transmit antenna matrices. These do not affect transmission of NAVTEX but can impact ability to monitor for quality control.

v/r

CWO [REDACTED]  
USCG Communications Command  
Long-Range Communications Program Manager  
Cell: [REDACTED]  
Work: [REDACTED]  
[REDACTED]@uscg.mil

---

**From:** Richards Michael <[REDACTED]@ntsb.gov>  
**Sent:** Wednesday, June 16, 2021 11:13 AM  
**To:** [REDACTED] [REDACTED]@uscg.mil>  
**Cc:** Phillips, Tracy CAPT <[REDACTED]@uscg.mil>; Ehlers Andrew [REDACTED]@ntsb.gov>; Richards Michael <[REDACTED]@ntsb.gov>  
**Subject:** [Non-DoD Source] RE: request for information (CWO [REDACTED])

Tim,

Thanks very much for this information. I received the documents from an email from Capt Phillips this morning. I think everything I asked for has been provided, unless you have any additional information for this request...

4. Any additional internal/external USCG communication related to the degradation of New Orleans NAVTEX services that lasted from 7 April 2021 – 13 April 2021. You did not identify this as an item you could provide, however if there is any record of communication internally, or to the public by the USCG available, we'd like to see it if possible. So I am including this as well.

Just a few follow-up questions to what you sent if you can address...

- The message sent from USCG to NGA on 7 April referenced "HF services" being degraded. Would that include NAVTEX?

- The NGA message indicates that services are "inoperable" which to me is different than "degraded." Do we know when New Orleans NAVTEX was working correctly during the period of 7 April to 16 April (aside from the period of ~15Z on 13 April to ~00Z on 14 April, where we believe that it wasn't)?

- Do you have a copy of the "restoral message" from COMMCOM?

Thank you again,  
Mike

---

**From:** [REDACTED] [REDACTED]@uscg.mil>  
**Sent:** Wednesday, June 16, 2021 9:01 AM  
**To:** Richards Michael <[REDACTED]@ntsb.gov>  
**Cc:** Phillips, Tracy CAPT <[REDACTED]@uscg.mil>; Ehlers Andrew [REDACTED]@ntsb.gov>  
**Subject:** RE: request for information (CWO [REDACTED])

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Mike,  
The Verizon ticket number for the outage was [REDACTED].

If you need help hunting the ticket down CWO [REDACTED] [REDACTED]@uscg.mil) at USCG CSI Service Center might be able to assist.

I was also able to locate the text of the NAVAREA IV message that was released by NGA over satellite:

071324Z APR 21  
NAVAREA IV 289/21(11).  
GULF OF MEXICO.  
LOUISIANA.  
USCG REMOTE COMMUNICATION FACILITY NEW ORLEANS (G) 29-53.1N 089-56.7W SERVICES INOPERABLE.

Hope this helps.

v/r  
CWO [REDACTED]  
USCG Communications Command  
Long-Range Communications Program Manager  
Cell: [REDACTED]  
Work: [REDACTED]  
[REDACTED]@uscg.mil

---

**From:** Richards Michael <[REDACTED]@ntsb.gov>  
**Sent:** Tuesday, June 15, 2021 10:21 PM  
**To:** [REDACTED]@uscg.mil>  
**Cc:** Phillips, Tracy CAPT [REDACTED]@uscg.mil>; Ehlers Andrew <[REDACTED]@ntsb.gov>  
**Subject:** [Non-DoD Source] request for information (CWO [REDACTED])

Hello Tim –

Thank you again for speaking with us today. The information you provided is very helpful. As we discussed, there are some additional items that came up during your interview that we'd like to formally request from you to support our investigation. I understand from Capt. Phillips that I should go ahead and request this information from you directly. She is copied here.

We request the following....

1. A map/chart that depicts the current (as of 13 April 2021) extent of the New Orleans NAVTEX broadcast.
2. The message sent on 7 April 2021 from the USCG to the NGA and USCG that advised of degraded service of the New Orleans NAVTEX.
3. The Verizon trouble ticket(s) applicable to the degraded service.
4. Any additional internal/external USCG communication related to the degradation of New Orleans NAVTEX services that lasted from 7 April 2021 – 13 April 2021. You did not identify this as an item you could provide, however if there is any record of communication internally, or to the public by the USCG available, we'd like to see it if possible. So I am including this as well.
5. The UNCLOG document(s) that identify mitigation procedures for an out-of-service NAVTEX broadcast. e.g., that identify what shall happen at the local/national USCG level in the event a NAVTEX broadcast is not working (how are NAVTEX messages delivered to users, etc...)

Again, thank you very much for your assistance,  
Mike

Mike Richards  
Operational Factors Division  
National Transportation Safety Board  
[REDACTED]@ntsb.gov

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**COMMCOM DASHBOARD REPORT****DCF ASSETS**

Asset	Category	Asset Owner	Status	Summary	QTY
EMICP #01	ENHANCED MOBILE INCIDENT CMD POST (EMICP)	COMMCOM	NMC	// DEPLOYMENT TYPE: Deployed // LOCATION: AIRSTA ECITY // REMARKS: //	1
EMICP #02	ENHANCED MOBILE INCIDENT CMD POST (EMICP)	COMMCOM	FMC	// DEPLOYMENT TYPE: Not Deployed // LOCATION: COMMCOM Chesapeake // REMARKS: //	1
ERP #01	ELEC RECOVERY PACKAGE (R21 ERP)	COMMCOM	NMC	// DEPLOYMENT TYPE: Not Deployed // LOCATION: Norfolk // REMARKS: Engine is NMC pending troubleshoot. //	1
ERP #02	ELEC RECOVERY PACKAGE (R21 ERP)	COMMCOM	FMC	// DEPLOYMENT TYPE: Not Deployed // LOCATION: COMMCOM Virginia Beach // REMARKS: //	1
ERP #03	ELEC RECOVERY PACKAGE (R21 ERP)	COMMCOM	FMC	// DEPLOYMENT TYPE: Not Deployed // LOCATION: COMMCOM Novato // REMARKS: //	1
ERP #04	ELEC RECOVERY PACKAGE (R21 ERP)	COMMCOM	FMC	// DEPLOYMENT TYPE: Not Deployed // LOCATION: COMMCOM Chesapeake // REMARKS: //	1
MCV #01	MOBILE COMMAND VEHICLE (MCV)	COMMCOM	FMC	// DEPLOYMENT TYPE: Not Deployed // LOCATION: COMMCOM Chesapeake // REMARKS: //	1
MCV #02	MOBILE COMMAND VEHICLE (MCV)	COMMCOM	FMC	// DEPLOYMENT TYPE: Deployed // LOCATION: D17 - Juneau, AK // REMARKS: //	1
MCV #03	MOBILE COMMAND VEHICLE (MCV)	COMMCOM	FMC	// DEPLOYMENT TYPE: Not Deployed // LOCATION: COMMCOM Chesapeake // REMARKS: //	1
MPAT #01	MULTI-PURPOSE PORT ANTENNA TOWER (MPAT)	COMMCOM	FMC	// DEPLOYMENT TYPE: Not Deployed // LOCATION: COMMCOM East // REMARKS: //	1
MPAT #02	MULTI-PURPOSE PORT ANTENNA TOWER (MPAT)	COMMCOM	FMC	// DEPLOYMENT TYPE: Not Deployed // LOCATION: COMMCOM Novato // REMARKS: //	1
PAT #01	PORTABLE ANTENNA TOWER (PAT)	COMMCOM	FMC	// DEPLOYMENT TYPE: Not Deployed // LOCATION: COMMCOM East // REMARKS: //	1
PAT #02	PORTABLE ANTENNA TOWER (PAT)	COMMCOM	NMC	// DEPLOYMENT TYPE: Not Deployed // LOCATION: COMMCOM Chesapeake // REMARKS: NMC due to INOP electrical tower motro relay controller //	1
PAT #03	PORTABLE ANTENNA TOWER (PAT)	COMMCOM	FMC	// DEPLOYMENT TYPE: Not Deployed // LOCATION: COMMCOM Novato // REMARKS: //	1
PAT #04	PORTABLE ANTENNA TOWER (PAT)	COMMCOM	FMC	// DEPLOYMENT TYPE: Not Deployed // LOCATION: COMMCOM Chesapeake // REMARKS: //	1

**UHF STATUS**

<i>Title</i>	<i>UHF Circuit</i>	<i>UHF Status</i>	<i>UHF Comments</i>
CGCONUS HLS 5K	CGCONUS HLS 5K	FMC	Due to classification, status is not updated here. Contact Comms Watch Officer at [REDACTED] (STE) or via Mako Client if you are experiencing issues with UHF SATCOM.
CGCONUS HLS IW	CGCONUS HLS IW	FMC	
CGPAC HLS 5K	CGPAC HLS 5K	FMC	
CGPAC HLS IW	CGPAC HLS IW	FMC	
PACAREA MERGE	PACAREA MERGE	FMC	

**FIXED ASSETS - COMMSYS**

<i>Site</i>	<i>Site Location</i>	<i>Operational Status</i>	<i>Summary</i>
NMA	Miami	FMC	NSTR
NMC	Pt. Reyes	FMC	NSTR
NME	Charleston	PMC	***STATUS CHANGE DATE: 44277***DISCREPS: Secondary NAVTEX transmitter is down; ***IMPACT:
NMF	Boston	FMC	NSTR
NMG	New Orleans	PMC	***STATUS CHANGE DATE: 44293***DISCREPS: Below Threshold 4 funtional transmitters; ***IMPACT: some services may be reduced
NMN	Chesapeake	FMC	NSTR
NMO	Honolulu	PMC	***STATUS CHANGE DATE: 44221***DISCREPS: 6 XMTRS Operational; ***IMPACT: Below operational threshold of 8 HF XMTRS
NMQ	Cambria	FMC	NSTR
NMR	Puerto Rico	FMC	NSTR
NMW	Astoria	FMC	NSTR
NOJ	Kodiak	PMC	***STATUS CHANGE DATE: 44239***DISCREPS: RLPA / Wave guide / Tower 6 Vertical Light Ext. NOTAM 03/168; ***IMPACT: RLPA RX cannot rotate / Wave guide pressure gas system leaking.
NRV	Guam	PMC	***STATUS CHANGE DATE: 44221***DISCREPS: No MF capability; ***IMPACT: NAVTEX TX via HF not MF

**FIXED ASSETS - GOTHAM**



Site	4125	#1	#2	Summary
Cold Bay	FMC	COTHEN	FMC	***STATUS CHANGE DATE: 44269***DISCREPS: (CB1 converted to COTHEN); ***IMPACT:
Kodiak	FMC	FMC	FMC	NSTR
Nome	FMC	FMC	FMC	NSTR
PT Higgins	FMC	COTHEN	FMC	***STATUS CHANGE DATE: 44232***DISCREPS: ; ***IMPACT:
Shemya	FMC	FMC	FMC	NSTR
St Paul	NMC	COTHEN	NMC	***STATUS CHANGE DATE: 44293***DISCREPS: COMMS Fault; ***IMPACT: 4125 and GOTHAM

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MEMORANDUM OF AGREEMENT  
BETWEEN  
THE UNITED STATES COAST GUARD  
AND  
THE NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION  
NATIONAL WEATHER SERVICE  
REGARDING  
THE MANAGEMENT OF MARINE WEATHER INFORMATION

I. PARTIES AND PURPOSE:

This Memorandum of Agreement (MOA) between the United States Coast Guard (USCG) and the National Oceanic and Atmospheric Administration/National Weather Service (NOAA/NWS) sets forth the terms under which the agencies will cooperatively endeavor to promote and positively affect the safety of mariners and the safe and efficient conduct of commerce in the United States (U.S.) waters. Among other things, this MOA formally recognizes the USCG-NOAA/NWS Coordination Liaison Group (UNCLOG) as the principal vehicle through which this cooperative effort shall be accomplished at the national level. The background, functions, organization and responsibilities of UNCLOG are set forth at Attachment 1.

II. AUTHORITY AND BACKGROUND:

NOAA/NWS, as authorized by 15 U.S.C. § 313, through its participation in the United Nations' (UN) World Meteorological Organization (WMO), and through the U.S. participation as a contracting nation in the Safety of Life at Sea (SOLAS) Convention (Presidential Executive Order 12234 [EO12234]), issues weather forecasts and warnings for the protection of life and property and for the enhancement of the national economy for the U.S. coastal and Great Lakes waters and major portions of the North Atlantic, Arctic, and Pacific Oceans (WMO meteorological areas [Metareas] 4, 12, and 14); as well as the Tsunami Warning and Education Act, 33 U.S.C. §§ 3201 *et seq.*

The USCG, in accordance with 14 U.S.C. § 707, may cooperate with NOAA/NWS to promote the safety of life and property on and over the high seas and other navigable waters by facilitating the observation, preparation and dissemination of weather information, forecasts and warnings, and may cooperate with NOAA/NWS in accordance with mutually satisfactory terms. The USCG, as authorized by 14 U.S.C. §§ 503, 544, promulgated regulations for the dissemination of marine safety information, including weather and ice information, to mariners, which also satisfy certain requirements of the SOLAS Convention.

The NOAA/NWS and the USCG, or their predecessor organizations, have been cooperating for more than a hundred years in fulfilling their complementary missions. EO 12234 sets forth this cooperative responsibility with respect to the implementation of the SOLAS Convention. This MOA provides an updated, overall framework for organizing and maintaining such cooperation.

### III. INTERAGENCY COORDINATION:

Interagency coordination is required at all organizational levels to ensure the most effective cooperation between the USCG and the NOAA/NWS.

The scope of topics coordinated through interagency coordination will include:

- Communications between the USCG and the NOAA/NWS, to include maintaining the configuration of telecommunication links.
- Services, such as meteorological observations, provided by the USCG to support NOAA/NWS missions.
- Services, such as meteorological forecasts and warnings, provided by the NOAA/NWS in support of USCG missions.
- Configuration management of NOAA/NWS text and graphic products to be disseminated over USCG telecommunications facilities.
- Transmission of selected sea ice products by the NOAA/NWS in support of the USCG ice patrol mission.
- Exploring and coordinating common efforts benefiting the missions of both organizations (e.g., proposing/supporting joint budget initiatives and developing/supporting unified positions at National and International forums).

### IV. COMMON GOALS:

- A. The USCG and the NOAA/NWS have as a common mission, the protection of life and property for mariners on the Great Lakes, the coastal waters of the U.S. and its territories, and various oceanic areas as determined by U.S. participation in WMO and IMO. In this regard, the agencies complement each other with NOAA/NWS issuing forecasts and warnings and USCG disseminating safety information including weather information. It is the common goal of our agencies to accomplish these missions effectively and efficiently.
- B. In the course of fulfilling their assigned missions, USCG personnel must routinely deal with adverse weather conditions. It is the common goal of our agencies to ensure USCG field personnel and the civil maritime community have sufficient and timely weather information necessary for the safe and successful accomplishment of these missions.
- C. The probability of accurate weather forecasts is enhanced by timely, consistent, and accurate observations. The vast size of the water areas, the lack of natural observational platforms, and the difficulty and cost of maintaining manmade

platforms in often harsh environments inhibit such observations in maritime areas. It is the common goal of our agencies to improve the accuracy and timeliness of marine forecasts and warnings through accurate and timely weather observations. It is also a common goal of our agencies to have manually collected and disseminated observations be eventually replaced by automated systems at all USCG land and ship facilities.

## V. RESPONSIBILITIES:

### A. Product Dissemination:

- 1) **THE NOAA/NWS AGREES TO** deliver scheduled and emergency weather, tsunami, and other mutually determined, requirements driven products to USCG point of entry locations agreeable to both agencies. These products will be in a format consistent with WMO standards (WMO Manual 386) and with agreed upon network protocols. This will include the transmission of agreed upon sea ice charts. As far as possible, scheduled products will be delivered in sufficient time to allow for broadcast queuing. Except in an emergency, changes to the suite of products will be coordinated to provide the USCG reasonably sufficient time to make any needed changes. Any agreements between local USCG and NOAA/NWS units that may have a national impact will, on a case-by-case basis, be reviewed through UNCLOG. The NOAA/NWS will consider USCG communications capabilities when implementing changes or modifications to its products. The NOAA/NWS will be responsible for all costs and maintenance from the origination up to the agreed to points of entry. The NOAA/NWS will identify to the USCG a 24-hour point of contact for dealing with problems or emergencies.
- 2) **THE USCG AGREES TO** distribute NOAA/NWS products from the agreed to points of entry locations throughout the USCG system for dissemination over its several broadcast vehicles. Such dissemination will be consistent with international standards and agreed upon data protocols. The USCG will be responsible for all costs and maintenance from the points of entry through the USCG dissemination system. USCG will consider NOAA/NWS products when developing and implementing changes or modifications to its communications. Except in an emergency, such changes will be coordinated to provide reasonably sufficient time to allow the NOAA/NWS to adjust its product suite most effectively. Dissemination schedules/priorities will be adhered to, to the best of its ability. The USCG will identify to the NOAA/NWS a 24-hour point of contact for dealing with problems or emergencies.

### B. USCG Missions:

- 1) **THE USCG AGREES TO** participate in the NOAA/NWS Voluntary Observing Ship (VOS) program to levels commensurate with necessary security measures and available resources. For those ships and units which are identified by NOAA/NWS as being no longer active or required participants, the USCG will assist NOAA/NWS in the return of loaned instrumentation. The USCG agrees to forward VOS observations received from non-USCG ships via radio to the NOAA/NWS telecommunications system. USCG units should establish means to quickly inform local NOAA/NWS offices of inaccurate forecasts and significant weather related events commensurate with necessary security measures and available resources. USCG should support NOAA/NWS training efforts by, whenever possible, encouraging NOAA/NWS staff to accompany them on short at sea missions and visits to USCG coastal units.
- 2) **THE USCG AGREES TO** primarily use NOAA/NWS analysis and forecast products for USCG field unit decision making, such as weekly weather briefings and extraordinary events, such as hurricanes, winter storms, major oil spills, rescues, large-scale exercises, or other incidents of that caliber. NOAA/NWS will assist in identifying appropriate existing products for use in these purposes.
- 3) **THE USCG AGREES TO** coordinate emergency support with NOAA/NWS. If possible, USCG will, in a timely manner, return reports of weather conditions encountered during the mission.

C. NOAA/NWS Missions:

- 1) **THE NOAA/NWS AGREES TO** provide USCG field units with weather information necessary for the safe and successful accomplishment of their assigned missions. Normally, this will be accomplished through regular, in place, telecommunication channels. However, specific forecasts (i.e., Spot Forecasts) and briefings may be provided for extraordinary events, such as hurricanes, winter storms, major oil spills, rescues, large-scale exercises, or other incidents of that caliber. At the request of the USCG, NOAA agrees to broadcast USCG safety, security and limited public service information, via NOAA Weather Radio in accordance with NOAA policy.
- 2) **THE NOAA/NWS AGREES TO** provide the software, training and instrumentation for those USCG ships and coastal units actively participating in the NOAA/NWS Voluntary Observing Ship (VOS) program. Local NOAA/NWS offices should work in coordination with USCG units to establish criteria for which NOAA/NWS should be notified of inaccurate forecasts and significant events (for example: loss of life, vessel accidents, and hazardous material spills, especially for those cases where an inaccurate forecast, rapidly changing conditions, or hazardous weather may be involved). Local NOAA/NWS offices should assist local

USCG personnel through training efforts and encouraging visits to NOAA/NWS forecast offices.

VI. FINANCIAL OBLIGATIONS:

This agreement is subject to the availability of appropriations. Each party is responsible for funding its respective responsibilities under this agreement. This agreement does not provide for the transfer of funds between the parties.

VII. DURATION OF AGREEMENT, AMENDMENTS, AND TERMINATION:

This MOA will become effective when signed by both the USCG Director of Prevention Policy and the NOAA Assistant Administrator for Weather Services. It will be reviewed every five years to ensure its viability and correctness and may be amended at any time by mutual consent of both parties.

This MOA may be terminated by either party by providing 120 days written notice to the other party.

This MOA will terminate 10 years from the date it is signed.

VIII. RESOLUTION OF DISAGREEMENTS:

Nothing herein is intended to conflict with current USCG or NOAA/NWS directives. If the terms of this agreement are found to be inconsistent with existing directives of either agency, the inconsistent portions will be considered invalid. However, the remaining portions of the MOA will remain in force. At the first opportunity, all necessary modifications will be made addressing the inconsistencies.

IX. POINTS OF CONTACT:

A. For the maintenance and administration of this MOA:

Allison Allen  
Chief of the Marine, Tropical and Tsunami Branch  
NOAA/NWS  
1325 East-West Highway  
Silver Spring, MD 20910

CAPT Joseph J. Sundland  
Chief Technology Officer  
U.S. Coast Guard Headquarters  
2703 Martin Luther King Jr Ave SE  
Washington, DC 20593

B. For 24-hour telecommunications coordination:

NOAA/NWS Telecommunications Gateway  
Chief, Central Communications Control Center  
1325 East-West Highway  
Silver Spring, MD 20910  
[REDACTED]

Enterprise Management Facility (tis-322)  
Commander, Telecommunications and Information Systems Command  
U.S. Coast Guard  
7323 Telegraph Road Stop 7300  
Alexandria Virginia 20598-7300  
EMF Watch: [REDACTED]  
E-Mail: [REDACTED]@uscg.mil

APPROVED: 03/30/2020

APPROVED: 3/31/20

[REDACTED]

**Louis W. Uccellini**  
NOAA Assistant Administrator  
for Weather Services

[REDACTED]

**Richard V. Timme**  
Rear Admiral, USCG  
Assistant Commandant for  
Prevention Policy

Attachment: United States Coast Guard - National Weather Service Coordination-  
Liaison Working Group (UNCLOG)

United States Coast Guard - National Weather Service  
Coordination-Liaison Working Group  
UNCLOG

**Mission:** The mission of UNCLOG is to enhance and expedite cooperative activities between and among the USCG, NOAA/NWS, and the National Geospatial-Intelligence Agency (NGA) as the separate agencies fulfill their various missions. (Even though it is not a signatory to the attached MOA, NGA is included herein as a participant in UNCLOG.)

**History:** UNCLOG began in 1990 as a small working group to coordinate communications between the NOAA/NWS and the USCG. Ten years after its inception, NGA, which issues hazards to navigation notices, was asked to join UNCLOG.

**Organization:** UNCLOG is a working level group made up of representatives from the USCG, NOAA/NWS, and NGA.

**Membership:** The NOAA/NWS and the USCG shall each designate one person to be co-chairpersons of UNCLOG. Together, they shall establish meeting times and places, develop agendas, take and record notes of meetings, and follow up on any action items. Other representatives from affected NOAA/NWS and USCG organizations will, as necessary, participate as UNCLOG members. The parties to this MOA may invite other interested Federal Government agencies to participate in UNCLOG activities. Observers from other organizations may participate if invited by the co-chairpersons.

**Meetings:** Meetings should be held at least three times a year at times and places set by the co-chairpersons.

**Scope of Authority:**

- 1) UNCLOG is a mechanism by which the member organizations can coordinate efforts to more efficiently and effectively implement procedures and policies from their respective organizations.
- 2) UNCLOG does not make policy. However, UNCLOG can be used as a vehicle for developing and providing justification for policies and recommendations.
- 3) Also, UNCLOG may be used as a vehicle for exploring, developing, and jointly proposing budget initiatives beneficial to member agencies.

- 4) UNCLOG shall be responsible for the configuration management of NOAA/NWS text and graphic products to be disseminated over USCG telecommunications facilities.
- 5) Otherwise, UNCLOG shall generally follow the topics noted in section 3 of the MOA.

**Procedures:** UNCLOG business will normally be handled informally, to the extent it can be done, in accordance with good business practice. The co-chairpersons will ensure accurate notes are kept and disseminated to member agencies. Decisions at the meetings shall be reached via a consensus.



October 6, 2016

National Weather Service Products Recommended for Broadcast

Changes from April 1, 2014 edition shown in **markup**

Effective: October 6, 2016

These changes include 4 new products specifically developed for broadcast via the USCG to meet the time constraints for HF voice (VOBRA) and SITOR broadcast. They replace 4 legacy products which are being lengthened to provide enhanced value to mariners for other applications.

NWS Identifiers re-verified October 6, 2016

Send corrections or comments to:

Richard May

[richard.may@noaa.gov](mailto:richard.may@noaa.gov)

National Weather Service Products Recommended for Broadcast on USCG HF VOBRA

These marine weather products may be viewed at:

<http://www.nws.noaa.gov/om/marine/forecast.htm>  
<http://www.nws.noaa.gov/om/marine/marinewxi.htm> (not all)

Information about the broadcast of NWS forecasts via USCG HF VOBRA may be found at:

<http://www.nws.noaa.gov/om/marine/hfvoice.htm>

STATION, ID	NWS IDENTIFIER	PRODUCT
Chesapeake, VA NMN	FZNT01 KWBC HSFAT1	High Seas Forecast, Atlantic and Gulf
	<b>FZNT33 KWBC OFFN31</b>	<b>Broadcast text offshore New England</b>
	<b>FZNT34 KWBC OFFN32</b>	<b>Broadcast text offshore Mid-Atlantic</b>
	<b>&amp;FZNT21 KWBC OFFNT1</b>	<b>Offshore New England</b>
	<b>&amp;FZNT22 KWBC OFFNT2</b>	<b>Offshore Mid-Atlantic</b>
	&FZNT23 KNHC OFFNT3	Offshore SW N. Atlantic and Caribbean
	&FZNT24 KNHC OFFNT4	Offshore Gulf of Mexico
	FZNT31 KNHC OFFN20	Broadcast Text SW N Atlantic and Caribbean
	FZNT32 KNHC OFFN21	Broadcast Text Gulf of Mexico
	#ABNT20 KNHC TWOAT	Tropical WX Outlook
	***WTNT2n KNHC TCMATn	Forecast/Advisory, Storm n, 1...5
	**\$WEXX20 PAAQ TSUAT1	Tsunami Advisory/Watch/Warning
	**WEXX30 PAAQ TSUATE	Tsunami Public Message
New Orleans, LA NMG	FZNT01 KWBC HSFAT1	High Seas Forecast, Atlantic and Gulf
	<b>FZNT33 KWBC OFFN31</b>	<b>Broadcast text offshore New England</b>
	<b>FZNT34 KWBC OFFN32</b>	<b>Broadcast text offshore Mid-Atlantic</b>
	<b>&amp;FZNT21 KWBC OFFNT1</b>	<b>Offshore New England</b>
	<b>&amp;FZNT22 KWBC OFFNT2</b>	<b>Offshore Mid-Atlantic</b>
	&FZNT23 KNHC OFFNT3	Offshore SW N. Atlantic and Caribbean
	&FZNT24 KNHC OFFNT4	Offshore Gulf of Mexico
	FZNT31 KNHC OFFN20	Broadcast Text SW N Atlantic and Caribbean
	FZNT32 KNHC OFFN21	Broadcast Text Gulf of Mexico
	#ABNT20 KNHC TWOAT	Tropical WX Outlook
	***WTNT2n KNHC TCMATn	Forecast/Advisory, Storm n, 1...5
	**\$WEXX20 PAAQ TSUAT1	Tsunami Advisory/Watch/Warning
	**WEXX30 PAAQ TSUATE	Tsunami Public Message
Kodiak, AK NOJ	FZPN02 KWBC HSFEPI	High Seas Forecast, Pacific
	FZAK67 PAJK OFFAJK	Eastern Gulf of Alaska
	FZAK61 PAFC OFFAER	Western Gulf of Alaska
	FZAK62 PAFC OFFALU	Bering Sea
	^@FZAK52 PAJK CWFAG	SE Outside Coastal Waters
	^@FZAK51 PAFC CWFAG	North Gulf Coast and Kodiak
	^@FZAK52 PAFC CWFALU	Southwest AK and the Aleutians
	<b>^@FZAK52 PAFC CWFACZ</b>	<b>Northwest AK Coast</b>
	<b>^@FZAK51 PAFC CWFNSB</b>	<b>Arctic Coast</b>
	^@FZAK80 PAFC ICEAFC	Sea Ice Advisory
	^FZAK53 PAJK CWFYAK	Yakutat Bay
	**\$WEPA41 PAAQ TSUWCA	Tsunami Advisory/Watch/Warning
	**WEAK51 PAAQ TSUAK1	Tsunami Public Message
Pt. Reyes, CA	FZPN01 KWBC HSFEPI	High Seas Forecast, NE Pacific

NMC	<b>FZPN40 PHFO HSFNP</b> <b>FZPN35 KWBC OFFN35</b> <b>FZPN36 KWBC OFFN36</b> <b>&amp;FZPN25 KWBC OFFPZ5</b> <b>&amp;FZPN26 KWBC OFFPZ6</b> <b>#ABPZ20 KNHC TWOEP</b> <b>**\$WEPA41 PAAQ TSUWCA</b> <b>**WEAK51 PAAQ TSUAK1</b>	<b>High Seas Forecast, N Cntrl Pacific</b> <b>Broadcast text offshore WA/OR 60-250 nm</b> <b>Broadcast text offshore CA, 60-250 nm</b> <b>Offshore WA/OR 60-250 nm</b> <b>Offshore CA, 60-250 nm</b> <i>Tropical WX Outlook, Eastern Pacific</i> Tsunami Advisory/Watch/Warning Tsunami Public Message
Honolulu HI	FZPN02 KWBC HSFEPI FZPS40 PHFO HSFSP FZHW60 PHFO OFFHFO <b>#ACP50 PHFO TWOCP</b> <b>***#WTPA2n PHFO TCMCPn</b> <b>**WEPA40 PHEB TSUPAC</b> <b>**WEHW50 PHEB TSUHW1</b>	High Seas Forecast, Pacific High Seas Forecast, 25S-Eq, 160E-120W Offshore, HI <i>Tropical WX Outlook, Central Pacific</i> Forecast/Advisory, Storm n, 1...5 Tsunami Watch/Warning - Central Pacific Public Tsunami Watch/Warning - Hawaii
Guam	FZPN02 KWBC HSFEPI * ****#WTPQ3n PGUM TCPPQn <b>**WEPA40 PHEB TSUPAC</b>	High Seas Forecast, Pacific Public Advisory, Storm n, 1...5 Tsunami Watch/Warning - Central Pacific
NRV		

*Italics indicate that these products are not being routinely broadcast by the USCG at the present time.*

- \* May not be transmitted to the U.S. Coast Guard via NOAA WX Wire, see:  
<http://www.nws.noaa.gov/om/marine/forecast.htm>
- \*\* Transmit advisory/watch/warnings only, not information/test messages. (Do not transmit advisories for products WEPA40 or WEHW50 until advised to do so by a later version of this document)
- \$ May be used as an alternative for broadcast if the Public Tsunami Message is unavailable. Contains supplementary information which may be of value to the USCG. Also used for monthly tsunami tests.
- \*\*\* Normally issued during hurricane season only, ~ May 15-Nov 30.  
At present, hurricane forecast/advisories are only being broadcast from NMN/NMG within available USCG resources and due to technical limitations. Critical hurricane information is contained within high seas and offshore forecasts, however, forecast/advisories contain amplifying information of value to mariners. Current broadcast schedules may preclude broadcast of these products until such time that schedules may be rearranged.
- # Not currently broadcast via HF VOBRA. To be broadcast during hurricane season only, ~ May 15-Nov 30. Current broadcast schedules may preclude broadcast of these products until such time that schedules may be rearranged. The Tropical Weather Outlooks are very concise forecasts containing information on the formation of tropical storm systems which would be of value to mariners.
- @ Would be of benefit to mariners if these could be broadcast within available resources.
- ^ These products broadcast by U.S. Coast Guard in addition to the minimum suite recommended by NWS.
- & Not recommended for broadcast, however, these products contain information

which may be of value to the USCG.

High seas Forecast	Routine Broadcast
Offshore Forecast & Broadcast Text	Routine Broadcast
Coastal Waters Forecast	Routine Broadcast
Tropical WX Outlook	Upon Receipt <sup>1</sup> and Routine Broadcast
Forecast/Advisory, Storm n, 1...5	Upon Receipt <sup>1</sup> and Routine Broadcast
Public Advisory, Storm n, 1...5	Upon Receipt <sup>1</sup> and Routine Broadcast
Tsunami	Upon Receipt <sup>1</sup> and Routine Broadcast

1. Unscheduled broadcasts of warnings are generally not possible using HF VOBRA due to transmitter and antenna availability, and have limited value as mariners generally monitor these frequencies at only the scheduled broadcast times. Questions regarding warnings may be addressed to the Ocean Prediction Center (301-683-1520), National Hurricane Center's Tropical Analysis and Forecast Branch (305-229-4425) or nearest National Weather Service Weather Forecast Office (WFO). For WFO contact information, please go to [weather.gov](http://weather.gov) then click general area of WFO to pull up their web page.

National Weather Service Products Recommended for Broadcast on HF SITOR

These marine weather products may be viewed at:

<http://www.nws.noaa.gov/om/marine/forecast.htm>  
<http://www.nws.noaa.gov/om/marine/marinewxi.htm> (not all)

Information about the broadcast of NWS forecasts via USCG HF SITOR may be found at:

<http://www.nws.noaa.gov/om/marine/hfsitor.htm>

STATION, ID	NWS IDENTIFIER	PRODUCT
Boston, MA NMN	FZNT01 KWBC HSFAT1	High Seas Forecast, Atlantic and Gulf
	<b>FZNT33 KWBC OFFN31</b>	<b>Broadcast text offshore New England</b>
	<b>#FZNT34 KWBC OFFN32</b>	<b>Broadcast text offshore Mid-Atlantic</b>
	<b>#&amp;FZNT21 KWBC OFFNT1</b>	<b>Offshore New England</b>
	<b>#&amp;FZNT22 KWBC OFFNT2</b>	<b>Offshore Mid-Atlantic</b>
	#&FZNT23 KNHC OFFNT3	Offshore SW N. Atlantic and Caribbean
	#&FZNT24 KNHC OFFNT4	Offshore Gulf of Mexico
	#FZNT31 KNHC OFFN20	Broadcast Text SW N Atlantic and Caribbean
	#FZNT32 KNHC OFFN21	Broadcast Text Gulf of Mexico
	***#ABNT20 KNHC TWOAT	Tropical WX Outlook
	***#WTNT2n KNHC TCMATn	Forecast/Advisory, Storm n, 1...5
	**\$WEXX20 PAAQ TSUAT1	Tsunami Advisory/Watch/Warning
	**WEXX30 PAAQ TSUATE	Tsunami Public Message
Pt. Reyes, CA NMC	FZPN02 KWBC HSFEP1	High Seas Forecast, Pacific
	<b>FZPN35 KWBC OFFN35</b>	<b>Broadcast text offshore WA/OR 60-250 nm</b>
	<b>FZPN36 KWBC OFFN36</b>	<b>Broadcast text offshore CA, 60-250 nm</b>
	<b>&amp;FZPN25 KWBC OFFPZ5</b>	<b>Offshore WA/OR 60-250 nm</b>
	<b>&amp;FZPN26 KWBC OFFPZ6</b>	<b>Offshore CA, 60-250 nm</b>
	@TBUS01 KNES SAT1	Polar Orbit Predictions, NOAA 17
	@TBUS02 KNES SAT2	Polar Orbit Predictions, NOAA 19
	@TBUS03 KNES SAT3	Polar Orbit Predictions, NOAA 15
	@TBUS04 KNES SAT4	Polar Orbit Predictions, NOAA 16
	@TBUS07 KNES SAT7	Polar Orbit Predictions, NOAA 18
	***#ABPZ20 KNHC TWOEP	Tropical WX Outlook
	***#WTPZ2n KNHC TCMEPn	Forecast/Advisory, Storm n, 1...5
	**\$WEPA41 PAAQ TSUWCA	Tsunami Advisory/Watch/Warning
	**WEAK51 PAAQ TSUAK1	Tsunami Public Message
Honolulu, HI NMO	FZPN02 KWBC HSFEP1	High Seas Forecast, Pacific
	FZPS40 PHFO HSFSP	High Seas Forecast, 25S-Eq, 160E-120W
	FZHW60 PHFO OFFHFO	Offshore, HI
	***#ABPZ20 KNHC TWOEP	Tropical WX Outlook, Eastern Pacific
	***#ACP50 PHFO TWOC	Tropical WX Outlook, Central Pacific
	***#WTPZ2n KNHC TCMEPn	Forecast/Advisory, Storm n, 1...5
	***#WTPA2n PHFO TCMCPn	Forecast/Advisory, Storm n, 1...5
	**\$WEPA40 PHEB TSUPAC	Tsunami Watch/Warning - Central Pacific
	**WEHW50 PHEB TSUHW1	Public Tsunami Watch/Warning - Hawaii
Guam NRV	FZPN02 KWBC HSFEP1	High Seas Forecast, Pacific
	* ***#WTPQ3n PGUM TCPPQn	Public Advisory, Storm n, 1...5
	**\$WEPA40 PHEB TSUPAC	Tsunami Watch/Warning - Central Pacific

*Italics indicate that these products are not being routinely broadcast by the USCG at the present time.*

- \* May not be transmitted to the U.S. Coast Guard via NOAA WX Wire, see:  
<http://www.nws.noaa.gov/om/marine/forecast.htm>
- \*\* Transmit advisory/watch/warnings only, not information/test messages. (Do not transmit advisories for products WEPA40 or WEHW50 until advised to do so by a later version of this document)
- \$ May be used as an alternative for broadcast if the Public Tsunami Message is unavailable. Contains supplementary information which may be of value to the USCG. Also used for monthly tsunami tests.
- \*\*\* Normally broadcast during hurricane season only, ~ May 15-NOV 30.
- # These products are not currently broadcast via HF SITOR but would be of benefit to mariners. Current broadcast schedules may preclude broadcast of these products until such time that schedules may be rearranged.
- @ These products broadcast at the request of mariners.
- & Not recommended for broadcast, however, these products contain information which may be of value to the USCG.

High Seas Forecast	Routine Broadcast
Offshore Forecast & Broadcast Text	Routine Broadcast
Polar Orbit Predictions	Routine broadcast
Tropical WX Outlook	Upon Receipt <sup>1</sup> and Routine Broadcast
Forecast/Advisory, Storm n, 1...5	Upon Receipt <sup>1</sup> and Routine Broadcast
Public Advisory, Storm n, 1...5	Upon Receipt <sup>1</sup> and Routine Broadcast
Tsunami	Upon Receipt <sup>1</sup> and Routine Broadcast

1. Unscheduled broadcasts of warnings may generally not be possible using HF SITOR due to transmitter and antenna availability, and have limited value as mariners generally monitor these frequencies at only the scheduled broadcast times. Questions regarding warnings may be addressed to the Ocean Prediction Center (301-683-1520), National Hurricane Center's Tropical Analysis and Forecast Branch (305-229-4425) or nearest National Weather Service Forecast Office. For WFO contact information, please go to [weather.gov](http://weather.gov) then click general area of WFO to pull up their web page.

National Weather Service Products Recommended for Broadcast on NAVTEX 518 kHz

These marine weather products may be viewed at:

<http://www.nws.noaa.gov/om/marine/forecast.htm>  
<http://www.nws.noaa.gov/om/marine/marinewxi.htm> (not all)

Information about the broadcast of NWS forecasts via USCG NAVTEX may be found at:

<http://www.nws.noaa.gov/om/marine/navtex.htm>

Note that the Coast Guard also broadcasts District Broadcast Notices to Mariners, GPS and LORAN-C warnings, and search and rescue distress relays over its NAVTEX stations. Broadcast of these messages may preclude broadcast of routine weather forecasts in some instances.

STATION, ID	NWS IDENTIFIER	PRODUCT
Boston, MA (F)	FZNT23 KWNM OFFN01	NAVTEX Broadcast
	FZUS71 KCAR MWSCAR	Marine Weather Statement
	FZUS71 KGYX MWSGYX	Marine Weather Statement
	FZUS71 KBOX MWSBOX	Marine Weather Statement
	FZUS71 KOKX MWSOKX	Marine Weather Statement
	FZUS71 KPHI MWSPHI	Marine Weather Statement
	WHUS51 KCAR SMWCAR	Special Marine Warning
	WHUS51 KGYX SMWGYX	Special Marine Warning
	WHUS51 KBOX SMWBOX	Special Marine Warning
	WHUS51 KOKX SMWOKX	Special Marine Warning
	WHUS51 KPHI SMWPHI	Special Marine Warning
	**\$WEXX20 PAAQ TSUAT1	Tsunami Advisory/Watch/Warning
	**WEXX30 PAAQ TSUATE	Tsunami Public Message
Portsmouth, VA (N)	FZNT24 KWNM OFFN02	NAVTEX Broadcast
	FZUS71 KPHI MWSPHI	Marine Weather Statement
	FZUS71 KLWX MWSLWX	Marine Weather Statement
	FZUS71 KAKQ MWSAKQ	Marine Weather Statement
	FZUS72 KMHX MWSMHX	Marine Weather Statement
	FZUS72 KILM MWSILM	Marine Weather Statement
	WHUS51 KPHI SMWPHI	Special Marine Warning
	WHUS51 KLWX SMWLWX	Special Marine Warning
	WHUS51 KAKQ SMWAKQ	Special Marine Warning
	WHUS52 KMHX SMWMHX	Special Marine Warning
	WHUS52 KILM SMWILM	Special Marine Warning
	**\$WEXX20 PAAQ TSUAT1	Tsunami Advisory/Watch/Warning
	**WEXX30 PAAQ TSUATE	Tsunami Public Message
Charleston, SC (E)	FZNT25 KWNM OFFN03	NAVTEX Broadcast
	FZUS72 KCHS MWSCHS	Marine Weather Statement
	FZUS72 KJAX MWSJAX	Marine Weather Statement
	WHUS52 KCHS SMWCCHS	Special Marine Warning
	WHUS52 KJAX SMWJAX	Special Marine Warning
	**\$WEXX20 PAAQ TSUAT1	Tsunami Advisory/Watch/Warning
Miami, FL	**WEXX30 PAAQ TSUATE	Tsunami Public Message
	FZNT25 KNHC OFFN04	NAVTEX Broadcast

(A)	FZUS72	KMLB	MWSMLB	Marine Weather Statement
	FZUS72	KMFL	MWSMFL	Marine Weather Statement
	FZUS72	KKEY	MWSKEY	Marine Weather Statement
	FZUS72	KTBW	MWSTBW	Marine Weather Statement
	WHUS52	KMLB	SMWMLB	Special Marine Warning
	WHUS52	KMFL	SMWMFL	Special Marine Warning
	WHUS52	KKEY	SMWKEY	Special Marine Warning
	WHUS52	KTBW	SMWTBW	Special Marine Warning
	**\$WEXX20	PAAQ	TSUAT1	Tsunami Advisory/Watch/Warning
	**WEXX30	PAAQ	TSUATE	Tsunami Public Message
San Juan PR	FZNT26	KNHC	OFFN05	NAVTEX Broadcast
(R)	FZCA72	TJSJ	MWSSJU	Marine Weather Statement
	WHCA52	TJSJ	SMWSJU	Special Marine Warning
	**\$WEXX20	PAAQ	TSUAT1	Tsunami Advisory/Watch/Warning
	**WEXX30	PAAQ	TSUATE	Tsunami Public Message
New Orleans, LA	FZNT27	KNHC	OFFN06	NAVTEX Broadcast
(G)	FZUS72	KTBW	MWSTBW	Marine Weather Statement
	FZUS72	KTAE	MWSTAE	Marine Weather Statement
	FZUS74	KMOB	MWSMOB	Marine Weather Statement
	FZUS74	KLIX	MWSLIX	Marine Weather Statement
	FZUS74	KLCH	MWSLCH	Marine Weather Statement
	FZUS74	KHGX	MWSHGX	Marine Weather Statement
	FZUS74	KCRP	MWSCRP	Marine Weather Statement
	FZUS74	KBRO	MWSBRO	Marine Weather Statement
	WHUS52	KTBW	SMWTBW	Special Marine Warning
	WHUS52	KTAE	SMWTAE	Special Marine Warning
	WHUS54	KMOB	SMWMOB	Special Marine Warning
	WHUS54	KLIX	SMWLIX	Special Marine Warning
	WHUS54	KLCH	SMWLCH	Special Marine Warning
	WHUS54	KHGX	SMWHGX	Special Marine Warning
	WHUS54	KCRP	SMWCRP	Special Marine Warning
	WHUS54	KBRO	SMWBRO	Special Marine Warning
	**\$WEXX20	PAAQ	TSUAT1	Tsunami Advisory/Watch/Warning
	**WEXX30	PAAQ	TSUATE	Tsunami Public Message
Kodiak, AK	FZAK67	PAJK	OFFAJK	Eastern Gulf of Alaska
(J)	FZAK61	PAFC	OFFAER	Western Gulf of Alaska
	FZAK61	PAJK	OFFN11	NAVTEX Broadcast SE AK
	FZAK63	PAFC	OFFN12	NAVTEX Broadcast N Gulf
	WHAK57	PAJK	SMWAJK	Special Marine Warning
	WHAK58	PAFC	SMWAFC	Special Marine Warning
	FZAK77	PAJK	MWSAJK	Marine Weather Statement
	FZAK78	PAFC	MWSAFC	Marine Weather Statement
	^@FZAK80	PAFC	ICEAFC	Sea Ice Advisory
			<i>(when advisory contains Cook Inlet information only)</i>	
	**\$WEPA41	PAAQ	TSUWCA	Tsunami Advisory/Watch/Warning
	**WEAK51	PAAQ	TSUAK1	Tsunami Public Message
Kodiak, AK	FZAK62	PAFC	OFFALU	BERING SEA
(X)	FZAK64	PAFC	OFFN13	NAVTEX Broadcast W AK
	FZAK62	PAFG	OFFN14	NAVTEX Broadcast Artic
	FZAK61	PAFG	OFFN15	NAVTEX Broadcast Western Alaska
	WHAK58	PAFC	SMWAFC	Special Marine Warning
	WHAK59	PAFG	SMWAFG	Special Marine Warning
	FZAK78	PAFC	MWSAFC	Marine Weather Statement
	FZAK79	PAFG	MWSAFG	Marine Weather Statement
	FZAK80	PAFC	ICEAFC	Sea Ice Advisory



	**\$WEPA41 PAAQ TSUWCA	Tsunami Advisory/Watch/Warning
	**WEAK51 PAAQ TSUAK1	Tsunami Public Message
Astoria, OR (W)	FZPN24 KWNM OFFN09	NAVTEX Broadcast
	FZUS76 KSEW MWSSEW	Marine Weather Statement
	FZUS76 KPQR MWSPQR	Marine Weather Statement
	FZUS76 KMFR MWSMFR	Marine Weather Statement
	WHUS56 KSEW SMWSEW	Special Marine Warning
	WHUS56 KPQR SMWPQR	Special Marine Warning
	WHUS56 KMFR SMWMFR	Special Marine Warning
	**\$WEPA41 PAAQ TSUWCA	Tsunami Advisory/Watch/Warning
	**WEAK51 PAAQ TSUAK1	Tsunami Public Message
Pt. Reyes, CA (C)	FZPN23 KWNM OFFN08	NAVTEX Broadcast
	FZUS76 KEKA MWSEKA	Marine Weather Statement
	FZUS76 KMTR MWSMTR	Marine Weather Statement
	WHUS56 KEKA SMWEKA	Special Marine Warning
	WHUS56 KMTR SMWMTR	Special Marine Warning
	\$WEPA41 PAAQ TSUWCA	Tsunami Advisory/Watch/Warning
	**WEAK51 PAAQ TSUAK1	Tsunami Public Message
Cambria, CA (Q)	FZPN22 KWNM OFFN07	NAVTEX Broadcast
	FZUS76 KLOX MWSLOX	Marine Weather Statement
	FZUS76 KSGX MWSSGX	Marine Weather Statement
	WHUS56 KLOX SMWLOX	Special Marine Warning
	WHUS56 KSGX SMWSGX	Special Marine Warning
	**\$WEPA41 PAAQ TSUWCA	Tsunami Advisory/Watch/Warning
	**WEAK51 PAAQ TSUAK1	Tsunami Public Message
Marianas, (V)	*FZMY50 PGUM CWFMY	Coastal Waters Forecast
	FZMY70 PGUM MWSMY	Marine Weather Statement
	WHMY50 PGUM SMWMY	Special Marine Warning
	**#WEPA40 PHEB TSUPAC	<i>Tsunami Watch/Warning - Central Pac</i>
Honolulu, HI (O)	FZHW61 PHFO OFFN10	NAVTEX Broadcast
	FZHW70 PHFO MWSHFO	Marine Weather Statement
	WHHW50 PHFO SMWHFO	Special Marine Warning
	**#WEPA40 PHEB TSUPAC	<i>Tsunami Watch/Warning - Central Pac</i>
	**WEHW50 PHEB TSUHW1	Public Tsunami Watch/Warning- Hawaii

*Italics indicate that these products are not being routinely broadcast by the USCG at the present time.*

\* May not be transmitted to the U.S. Coast Guard via NOAA WX Wire, see:  
<http://www.nws.noaa.gov/om/marine/forecast.htm>

\*\* Transmit advisory/watch/warnings only, not information/test messages. (Do not transmit advisories for products WEPA40 or WEHW50 until advised to do so by a later version of this document). Tsunami warnings should be transmitted as navigational warnings via NAVTEX (subject indicator "A")

\$ May be used as an alternative for broadcast if the Public Tsunami Message is unavailable. Contains supplementary information which may be of value to the USCG. Also used for monthly tsunami tests.

NAVTEX Forecast	Routine Broadcast <sup>2</sup>
Coastal Waters Forecast	Routine Broadcast <sup>2</sup>

Offshore Forecast  
SEA ICE ADVISORY  
Marine Weather Statement  
Special Marine Warning  
Tsunami

Routine Broadcast<sup>2</sup>  
Routine Broadcast<sup>3</sup>  
Routine Broadcast<sup>1</sup>  
Upon Receipt<sup>1</sup> and Routine Broadcast  
Upon Receipt<sup>1</sup> and Routine Broadcast

1. These products should be transmitted with a subject indicator of "B", which cannot be rejected by NAVTEX receivers. Unscheduled broadcasts of warnings may not always be possible using NAVTEX, as the broadcast of other NAVTEX stations may have to be rescheduled, creating an unintended cascade of late or missing broadcasts. Questions regarding warnings may be addressed to the Ocean Prediction Center (301-683-1520), National Hurricane Center's Tropical Analysis and Forecast Branch (305-229-4425) or nearest National Weather Service Forecast Office. For WFO contact information, please go to [weather.gov](http://weather.gov) then click general area of WFO to pull up their web page.

2. These products should be transmitted with a subject indicator of "E", with the exception that any product containing the word "warning" or "sea ice advisory" should be broadcast with a subject indicator of "B" which cannot be rejected by NAVTEX receivers. Tsunami warnings should be transmitted as navigational warnings via NAVTEX (subject indicator "A")

3. The Alaska Sea Ice Advisory would be of great value to mariners if it could be transmitted via NAVTEX. This may be practicable by broadcasting the product once/day rather than every NAVTEX broadcast cycle. The product is updated by 3:30 pm every Monday, Wednesday, and Friday.

It is recognized the U.S. Coast Guard may on occasion have to defer or shorten the broadcast of a scheduled weather forecast via NAVTEX to ensure delivery of more urgent navigational and safety warnings. A lower priority may be assigned to forecasts that have been previously broadcast. If any of these actions should occur on a routine basis, the USCG should notify NWS so that format changes, such as shortening the period of the forecast, may be considered.

# National Weather Service Products Recommended for Broadcast on CH 22A VHF FM

These marine weather products may be viewed at:

<http://www.nws.noaa.gov/om/marine/forecast.htm>  
<http://www.nws.noaa.gov/om/marine/marinewxi.htm> (not all)

Information about the broadcast of NWS forecasts via USCG CH 22A VHF FM may be found at:

<http://www.nws.noaa.gov/om/marine/vhfvoice.htm>

STATION, ID	NWS IDENTIFIER	PRODUCT
1st District		
Sector		
Northern New England		
	FZUS51 KCAR CWFCAR	Coastal Waters Forecast
	FZUS51 KGYX CWFGYX	Coastal Waters Forecast
	FZUS71 KCAR MWSCAR	Marine Weather Statement
	FZUS71 KGYX MWSGYX	Marine Weather Statement
	WHUS51 KCAR SMWCAR	Special Marine Warning
	WHUS51 KGYX SMWGYX	Special Marine Warning
	WHUS41 KCAR CFWCAR	Coastal Hazard Message
	WHUS41 KGYX CFWGYX	Coastal Hazard Message
	&WHUS71 KCAR MWWCAR	Marine Weather Message
	&WHUS71 KGYX MWWGYX	Marine Weather Message
	***ABNT20 KNHC TWOAT	Tropical WX Outlook
	***WTNT3n KNHC TCPATn	Forecast/Advisory, Storm n, 1...5
	**\$WEXX20 PAAQ TSUAT1	Tsunami Advisory/Watch/Warning
	**WEXX30 PAAQ TSUATE	Tsunami Public Message
Sector		
Boston		
	FZUS51 KBOX CWFBBOX	Coastal Waters Forecast
	FZUS71 KBOX MWSBOX	Marine Weather Statement
	WHUS51 KBOX SMWBOX	Special Marine Warning
	WHUS41 KBOX CFWBOX	Coastal Hazard Message
	&WHUS71 KBOX MWWBOX	Marine Weather Message
	&FZUS51 KBOX SRFBBOX	Surf Zone Forecast
	***ABNT20 KNHC TWOAT	Tropical WX Outlook
	***WTNT3n KNHC TCPATn	Forecast/Advisory, Storm n, 1...5
	**\$WEXX20 PAAQ TSUAT1	Tsunami Advisory/Watch/Warning
	**WEXX30 PAAQ TSUATE	Tsunami Public Message
Sector		
Southeastern New England		
	FZUS51 KBOX CWFBBOX	Coastal Waters Forecast
	FZUS71 KBOX MWSBOX	Marine Weather Statement
	WHUS51 KBOX SMWBOX	Special Marine Warning
	WHUS41 KBOX CFWBOX	Coastal Hazard Message
	&WHUS71 KBOX MWWBOX	Marine Weather Message
	&FZUS51 KBOX SRFBBOX	Surf Zone Forecast
	***ABNT20 KNHC TWOAT	Tropical WX Outlook
	***WTNT3n KNHC TCPATn	Forecast/Advisory, Storm n, 1...5
	**\$WEXX20 PAAQ TSUAT1	Tsunami Advisory/Watch/Warning

	**WEXX30	PAAQ	TSUATE	Tsunami Public Message
Sector				
Long Island Sound	FZUS51	KOKX	CWFOKX	Coastal Waters Forecast
	FZUS71	KOKX	MWSOKX	Marine Weather Statement
	WHUS51	KOKX	SMWOKX	Special Marine Warning
	WHUS41	KOKX	CFWOKX	Coastal Hazard Message
	&WHUS71	KOKX	MWWOKX	Marine Weather Message
	&FZUS51	KOKX	SRFOKX	Surf Zone Forecast
	***ABNT20	KNHC	TWOAT	Tropical WX Outlook
	***WTNT3n	KNHC	TCPATn	Forecast/Advisory, Storm n, 1...5
	**\$WEXX20	PAAQ	TSUAT1	Tsunami Advisory/Watch/Warning
	**WEXX30	PAAQ	TSUATE	Tsunami Public Message
5th District				
Sector				
Delaware Bay	FZUS51	KPHI	CWFPHI	Coastal Waters Forecast
	FZUS51	KLWX	CWFLWX	Coastal Waters Forecast
	FZUS71	KPHI	MWSPHI	Marine Weather Statement
	FZUS71	KLWX	MWSLWX	Marine Weather Statement
	WHUS51	KPHI	SMWPHI	Special Marine Warning
	WHUS51	KLWX	SMWLWX	Special Marine Warning
	WHUS41	KPHI	CFWPHI	Coastal Hazard Message
	WHUS41	KLWX	CFWLWX	Coastal Hazard Message
	&WHUS71	KPHI	MWWPHI	Marine Weather Message
	&FZUS51	KPHI	SRFPHI	Surf Zone Forecast
	***ABNT20	KNHC	TWOAT	Tropical WX Outlook
	***WTNT3n	KNHC	TCPATn	Forecast/Advisory, Storm n, 1...5
	**\$WEXX20	PAAQ	TSUAT1	Tsunami Advisory/Watch/Warning
	**WEXX30	PAAQ	TSUATE	Tsunami Public Message
Sector				
Baltimore	FZUS51	KLWX	CWFLWX	Coastal Waters Forecast
	FZUS51	KAKQ	CWFAKQ	Coastal Waters Forecast
	FZUS71	KLWX	MWSLWX	Marine Weather Statement
	FZUS71	KAKQ	MWSAKQ	Marine Weather Statement
	WHUS51	KLWX	SMWLWX	Special Marine Warning
	WHUS51	KAKQ	SMWAKQ	Special Marine Warning
	WHUS41	KLWX	CFWLWX	Coastal Hazard Message
	WHUS41	KAKQ	CFWAKQ	Coastal Hazard Message
	&WHUS71	KLWX	MWWLWX	Marine Weather Message
	&WHUS71	KAKQ	MWWAKQ	Marine Weather Message
	&FZUS51	KAKQ	SRFAKQ	Surf Zone Forecast
	***ABNT20	KNHC	TWOAT	Tropical WX Outlook
	***WTNT3n	KNHC	TCPATn	Forecast/Advisory, Storm n, 1...5
	**\$WEXX20	PAAQ	TSUAT1	Tsunami Advisory/Watch/Warning
	**WEXX30	PAAQ	TSUATE	Tsunami Public Message
Sector				
Hampton Roads	FZUS51	KLWX	CWFLWX	Coastal Waters Forecast
	FZUS51	KAKQ	CWFAKQ	Coastal Waters Forecast
	FZUS71	KLWX	MWSLWX	Marine Weather Statement
	FZUS71	KAKQ	MWSAKQ	Marine Weather Statement

WHUS51	KLWX	SMWLWX	Special Marine Warning
WHUS51	KAKQ	SMWAKQ	Special Marine Warning
WHUS41	KLWX	CFWLWX	Coastal Hazard Message
WHUS41	KAKQ	CFWAKQ	Coastal Hazard Message
&WHUS71	KLWX	MWWLWX	Marine Weather Message
&WHUS71	KAKQ	MWWAKQ	Marine Weather Message
&FZUS51	KAKQ	SRFAKQ	Surf Zone Forecast
***ABNT20	KNHC	TWOAT	Tropical WX Outlook
***WTNT3n	KNHC	TCPATn	Forecast/Advisory, Storm n, 1...5
**\$WEXX20	PAAQ	TSUAT1	Tsunami Advisory/Watch/Warning
**WEXX30	PAAQ	TSUATE	Tsunami Public Message

Sector  
North Carolina

FZUS51	KAKQ	CWFAKQ	Coastal Waters Forecast
FZUS52	KMHX	CWFMHX	Coastal Waters Forecast
FZUS52	KILM	CWFILM	Coastal Waters Forecast
FZUS71	KAKQ	MWSAKQ	Marine Weather Statement
FZUS72	KMHX	MWSMHX	Marine Weather Statement
FZUS72	KILM	MWSILM	Marine Weather Statement
WHUS51	KAKQ	SMWAKQ	Special Marine Warning
WHUS52	KMHX	SMWMHX	Special Marine Warning
WHUS52	KILM	SMWILM	Special Marine Warning
WHUS41	KAKQ	CFWAKQ	Coastal Hazard Message
WHUS42	KMHX	CFWMHX	Coastal Hazard Message
WHUS42	KILM	CFWILM	Coastal Hazard Message
&WHUS71	KAKQ	MWWAKQ	Marine Weather Message
&WHUS72	KMHX	MWWMHX	Marine Weather Message
&WHUS72	KILM	MWWILM	Marine Weather Message
&FZUS51	KAKQ	SRFAKQ	Surf Zone Forecast
&FZUS52	KMHX	SRFMHX	Surf Zone Forecast
&FZUS52	KILM	SRFILM	Surf Zone Forecast
***ABNT20	KNHC	TWOAT	Tropical WX Outlook
***WTNT3n	KNHC	TCPATn	Forecast/Advisory, Storm n, 1...5
**\$WEXX20	PAAQ	TSUAT1	Tsunami Advisory/Watch/Warning
**WEXX30	PAAQ	TSUATE	Tsunami Public Message

7th District

Sector  
Charleston

FZUS52	KILM	CWFILM	Coastal Waters Forecast
FZUS52	KCHS	CWFCHS	Coastal Waters Forecast
FZUS72	KILM	MWSILM	Marine Weather Statement
FZUS72	KCHS	MWSCHS	Marine Weather Statement
WHUS52	KILM	SMWILM	Special Marine Warning
WHUS52	KCHS	SMWCHS	Special Marine Warning
WHUS42	KILM	CFWILM	Coastal Hazard Message
WHUS42	KCHS	CFWCHS	Coastal Hazard Message
&WHUS72	KILM	MWWILM	Marine Weather Message
&WHUS72	KCHS	MWWCHS	Marine Weather Message
&FZUS52	KILM	SRFILM	Surf Zone Forecast
&FZUS52	KCHS	SRFCHS	Surf Zone Forecast
***ABNT20	KNHC	TWOAT	Tropical WX Outlook
***WTNT3n	KNHC	TCPATn	Forecast/Advisory, Storm n, 1...5
**\$WEXX20	PAAQ	TSUAT1	Tsunami Advisory/Watch/Warning
**WEXX30	PAAQ	TSUATE	Tsunami Public Message

Sector  
Jacksonville

FZUS52	KJAX	CWFJAX	Coastal Waters Forecast
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FZUS52	KMLB	CWFMLB	Coastal Waters Forecast
FZUS72	KJAX	MWSJAX	Marine Weather Statement
FZUS72	KMLB	MWSMLB	Marine Weather Statement
WHUS52	KJAX	SMWJAX	Special Marine Warning
WHUS52	KMLB	SMWMLB	Special Marine Warning
WHUS42	KJAX	CFWJAX	Coastal Hazard Message
WHUS42	KMLB	CFWMLB	Coastal Hazard Message
&WHUS72	KJAX	MWWJAX	Marine Weather Message
&WHUS72	KMLB	MWWMLB	Marine Weather Message
&FZUS52	KJAX	SRFJAX	Surf Zone Forecast
&FZUS52	KMLB	SRFMLB	Surf Zone Forecast
***ABNT20	KNHC	TWOAT	Tropical WX Outlook
***WTNT3n	KNHC	TCPATn	Forecast/Advisory, Storm n, 1...5
**\$WEXX20	PAAQ	TSUAT1	Tsunami Advisory/Watch/Warning
**WEXX30	PAAQ	TSUATE	Tsunami Public Message

Sector  
Miami

FZUS52	KMLB	CWFMLB	Coastal Waters Forecast
FZUS52	KMFL	CWFMFL	Coastal Waters Forecast
FZUS52	KKEY	CWFKEY	Coastal Waters Forecast
FZUS72	KMLB	MWSMLB	Marine Weather Statement
FZUS72	KMFL	MWSMFL	Marine Weather Statement
FZUS72	KKEY	MWSKEY	Marine Weather Statement
WHUS52	KMLB	SMWMLB	Special Marine Warning
WHUS52	KMFL	SMWMFL	Special Marine Warning
WHUS52	KKEY	SMWKEY	Special Marine Warning
WHUS42	KMLB	CFWMLB	Coastal Hazard Message
WHUS42	KMFL	CFWMFL	Coastal Hazard Message
WHUS42	KKEY	CFWKEY	Coastal Hazard Message
&WHUS72	KMLB	MWWMLB	Marine Weather Message
&WHUS72	KMFL	MWWMFL	Marine Weather Message
&WHUS72	KKEY	MWWKEY	Marine Weather Message
&FZUS52	KMLB	SRFMLB	Surf Zone Forecast
&FZUS52	KMFL	SRFMFL	Surf Zone Forecast
&FZUS52	KKEY	SRFKEY	Surf Zone Forecast
***ABNT20	KNHC	TWOAT	Tropical WX Outlook
***WTNT3n	KNHC	TCPATn	Forecast/Advisory, Storm n, 1...5
**\$WEXX20	PAAQ	TSUAT1	Tsunami Advisory/Watch/Warning
**WEXX30	PAAQ	TSUATE	Tsunami Public Message

Sector  
Key West

FZUS52	KMFL	CWFMFL	Coastal Waters Forecast
FZUS52	KKEY	CWFKEY	Coastal Waters Forecast
FZUS72	KMFL	MWSMFL	Marine Weather Statement
FZUS72	KKEY	MWSKEY	Marine Weather Statement
WHUS52	KMFL	SMWMFL	Special Marine Warning
WHUS52	KKEY	SMWKEY	Special Marine Warning
WHUS42	KMFL	CFWMFL	Coastal Hazard Message
WHUS42	KKEY	CFWKEY	Coastal Hazard Message
&WHUS72	KMFL	MWWMFL	Marine Weather Message
&WHUS72	KKEY	MWWKEY	Marine Weather Message
&FZUS52	KMFL	SRFMFL	Surf Zone Forecast
&FZUS52	KKEY	SRFKEY	Surf Zone Forecast
***ABNT20	KNHC	TWOAT	Tropical WX Outlook
***WTNT3n	KNHC	TCPATn	Forecast/Advisory, Storm n, 1...5
**\$WEXX20	PAAQ	TSUAT1	Tsunami Advisory/Watch/Warning
**WEXX30	PAAQ	TSUATE	Tsunami Public Message

Sector

San Juan	FZCA52	TJSJ	CWFSJU	Coastal Waters Forecast
	FZCA72	TJSJ	MWSSJU	Marine Weather Statement
	WHCA52	TJSJ	SMWSJU	Special Marine Warning
	WHCA42	TJSJ	CFWSJU	Coastal Hazard Message
	&WHCA72	TJSJ	MWWSJU	Marine Weather Message
	***ABNT20	KNHC	TWOAT	Tropical WX Outlook
	***WTNT3n	KNHC	TCPATn	Forecast/Advisory, Storm n, 1...5
	**\$WEXX20	PAAQ	TSUAT1	Tsunami Advisory/Watch/Warning
	**WEXX30	PAAQ	TSUATE	Tsunami Public Message

Sector				
St. Petersburg	FZUS52	KTAE	CWFTAE	Coastal Waters Forecast
	FZUS52	KTBW	CWFTBW	Coastal Waters Forecast
	FZUS52	KMFL	CWFMFL	Coastal Waters Forecast
	FZUS72	KTAE	MWSTAE	Marine Weather Statement
	FZUS72	KTBW	MWSTBW	Marine Weather Statement
	FZUS72	KMFL	MWSMFL	Marine Weather Statement
	WHUS52	KTAE	SMWTAE	Special Marine Warning
	WHUS52	KTBW	SMWTBW	Special Marine Warning
	WHUS52	KMFL	SMWMFL	Special Marine Warning
	WHUS42	KTAE	CFWTAE	Coastal Hazard Message
	WHUS42	KTBW	CFWTBW	Coastal Hazard Message
	WHUS42	KMFL	CFWMFL	Coastal Hazard Message
	&WHUS72	KTAE	MWWTAE	Marine Weather Message
	&WHUS72	KTBW	MWWTBW	Marine Weather Message
	&WHUS72	KMFL	MWWMFL	Marine Weather Message
	&FZUS52	KTAE	SRFTAE	Surf Zone Forecast
	&FZUS52	KTBW	SRFTBW	Surf Zone Forecast
	&FZUS52	KMFL	SRFMFL	Surf Zone Forecast
	***ABNT20	KNHC	TWOAT	Tropical WX Outlook
	***WTNT3n	KNHC	TCPATn	Forecast/Advisory, Storm n, 1...5
	**\$WEXX20	PAAQ	TSUAT1	Tsunami Advisory/Watch/Warning
	**WEXX30	PAAQ	TSUATE	Tsunami Public Message

#### 8th District

Sector Ohio Valley  
Sector Upper Mississippi River  
Sector Lower Mississippi River

None, The USCG has elected not to transmit weather broadcast for western rivers via VHF as no marine forecasts are available, and public forecasts are available by a variety of other means.

Sector				
Mobile	FZUS52	KTAE	CWFTAE	Coastal Waters Forecast
	FZUS54	KMOB	CWFMOB	Coastal Waters Forecast
	FZUS54	KLIX	CWFLIX	Coastal Waters Forecast
	FZUS72	KTAE	MWSTAE	Marine Weather Statement
	FZUS74	KMOB	MWSMOB	Marine Weather Statement
	FZUS74	KLIX	MWSLIX	Marine Weather Statement
	WHUS52	KTAE	SMWTAE	Special Marine Warning
	WHUS54	KMOB	SMWMOB	Special Marine Warning
	WHUS54	KLIX	SMWLIX	Special Marine Warning
	WHUS42	KTAE	CFWTAE	Coastal Hazard Message
	WHUS44	KMOB	CFWMOB	Coastal Hazard Message

	WHUS44 KLIX CFWLIX	Coastal Hazard Message
	&WHUS72 KTAE MWWTAE	Marine Weather Message
	&WHUS74 KMOB MWWMOB	Marine Weather Message
	&WHUS74 KLIX MWWLIX	Marine Weather Message
	&FZUS52 KTAE SRFTAE	Surf Zone Forecast
	&FZUS54 KMOB SRFMOB	Surf Zone Forecast
	***ABNT20 KNHC TWOAT	Tropical WX Outlook
	***WTNT3n KNHC TCPATn	Forecast/Advisory, Storm n, 1...5
	**\$WEXX20 PAAQ TSUAT1	Tsunami Advisory/Watch/Warning
	*\$WEXX30 PAAQ TSUATE	Tsunami Public Message
Sector		
New Orleans	FZUS54 KLIX CWFLIX	Coastal Waters Forecast
	FZUS54 KLCH CWFLCH	Coastal Waters Forecast
	FZUS74 KLIX MWSLIX	Marine Weather Statement
	FZUS74 KLCH MWSLCH	Marine Weather Statement
	WHUS54 KLIX SMWLIX	Special Marine Warning
	WHUS54 KLCH SMWLCH	Special Marine Warning
	WHUS44 KLIX CFWLIX	Coastal Hazard Message
	WHUS44 KLCH CFWLCH	Coastal Hazard Message
	&WHUS74 KLIX MWWLIX	Marine Weather Message
	&WHUS74 KLCH MWWLCH	Marine Weather Message
	***ABNT20 KNHC TWOAT	Tropical WX Outlook
	***WTNT3n KNHC TCPATn	Forecast/Advisory, Storm n, 1...5
	**\$WEXX20 PAAQ TSUAT1	Tsunami Advisory/Watch/Warning
	*\$WEXX30 PAAQ TSUATE	Tsunami Public Message
Sector		
Houston-Galveston	@FZUS54 KLIX CWFLIX	Coastal Waters Forecast
	FZUS54 KLCH CWFLCH	Coastal Waters Forecast
	FZUS54 KHGX CWFHGX	Coastal Waters Forecast
	FZUS74 KLCH MWSLCH	Marine Weather Statement
	FZUS74 KHGX MWSHGX	Marine Weather Statement
	WHUS54 KLCH SMWLCH	Special Marine Warning
	WHUS54 KHGX SMWHGX	Special Marine Warning
	WHUS44 KLCH CFWLCH	Coastal Hazard Message
	WHUS44 KHGX CFWHGX	Coastal Hazard Message
	&WHUS74 KLCH MWWLCH	Marine Weather Message
	&WHUS74 KHGX MWWHGX	Marine Weather Message
	***ABNT20 KNHC TWOAT	Tropical WX Outlook
	***WTNT3n KNHC TCPATn	Forecast/Advisory, Storm n, 1...5
	**\$WEXX20 PAAQ TSUAT1	Tsunami Advisory/Watch/Warning
	*\$WEXX30 PAAQ TSUATE	Tsunami Public Message
Sector		
Corpus Christi	FZUS54 KCRP CWFCRP	Coastal Waters Forecast
	FZUS54 KBRO CWFBRP	Coastal Waters Forecast
	FZUS74 KCRP MWSCR	Marine Weather Statement
	FZUS74 KBRO MWSBRP	Marine Weather Statement
	WHUS54 KCRP SMWCRP	Special Marine Warning
	WHUS54 KBRO SMWBRP	Special Marine Warning
	WHUS44 KCRP CFWCRP	Coastal Hazard Message
	WHUS44 KBRO CFWBRP	Coastal Hazard Message
	&WHUS74 KCRP MWWCRP	Marine Weather Message



&WHUS74	KBRO	MWWBRO	Marine Weather Message
&FZUS54	KCRP	SRFCRP	Surf Zone Forecast
&FZUS54	KBRO	SRFBRO	Surf Zone Forecast
***ABNT20	KNHC	TWOAT	Tropical WX Outlook
***WTNT3n	KNHC	TCPATn	Forecast/Advisory, Storm n, 1...5
**\$WEXX20	PAAQ	TSUAT1	Tsunami Advisory/Watch/Warning
**WEXX30	PAAQ	TSUATE	Tsunami Public Message

#### 9th District

##### Sector Buffalo

FZUS61	KCLE	GLFLE	Lake Erie, Open Lake Forecast
FZUS61	KBUF	GLFLO	Lake Ontario, Open Lake Forecast
FZUS61	KBUF	GLFSL	St. Lawrence, Open Lake Forecast
FZUS51	KBUF	NSHBUF	Nearshore Forecast
FZUS51	KCLE	NSHCLE	Nearshore Forecast
FZUS81	KBUF	ICEFBO	St Lawrence Ice Freezup/Breakup
FZUS81	KCLE	ICEFBO	Great Lakes Ice Freezup/Breakup
FZUS81	KCLE	ICELIO	Great Lakes Ice Outlook
FZUS71	KBUF	MWSBUF	Marine Weather Statement
FZUS71	KCLE	MWSCLE	Marine Weather Statement
WHUS51	KBUF	SMWBUF	Special Marine Warning
WHUS51	KCLE	SMWCLE	Special Marine Warning
WHUS41	KBUF	CFWBUF	Lakeshore Hazard Message
WHUS41	KCLE	CFWCLE	Lakeshore Hazard Message
&WHUS71	KBUF	MWWBUF	Marine Weather Message
&WHUS71	KCLE	MWWCLE	Marine Weather Message

##### Sector Detroit

FZUS61	KBUF	GLFLO	Lake Ontario, Open Lake Forecast
FZUS61	KCLE	GLFLE	Lake Erie, Open Lake Forecast
FZUS63	KDTX	GLFLH	Lake Huron, Open Lake Forecast
FZUS63	KDTX	GLFSC	Lake ST. Clair Lakeshore Forecast
FZUS51	KCLE	NSHCLE	Nearshore Forecast
FZUS53	KDTX	NSHDTX	Nearshore Forecast
FZUS53	KAPX	NSHAPX	Nearshore Forecast
FZUS81	KBUF	ICEFBO	St Lawrence Ice Freezup/Breakup
FZUS81	KCLE	ICEFBO	Great Lakes Ice Freezup/Breakup
FZUS81	KCLE	ICELIO	Great Lakes Ice Outlook
FZUS71	KCLE	MWSCLE	Marine Weather Statement
FZUS73	KDTX	MWSDTX	Marine Weather Statement
FZUS73	KAPX	MWSAPX	Marine Weather Statement
WHUS51	KCLE	SMWCLE	Special Marine Warning
WHUS53	KDTX	SMWDTX	Special Marine Warning
WHUS53	KAPX	SMWAPX	Special Marine Warning
WHUS41	KCLE	CFWCLE	Lakeshore Hazard Message
WHUS43	KDTX	CFWDTX	Lakeshore Hazard Message
WHUS43	KAPX	CFWAPX	Lakeshore Hazard Message
&WHUS71	KCLE	MWWCLE	Marine Weather Message
&WHUS73	KDTX	MWWDTX	Marine Weather Message
&WHUS73	KAPX	MWWAPX	Marine Weather Message

##### Sector Sault Ste. Marie

FZUS63	KLOT	GLFLM	Lake Michigan, Open Lake Forecast
FZUS63	KMQT	GLFLS	Lake Superior, Open Lake Forecast
FZUS63	KDTX	GLFLH	Lake Huron, Open Lake Forecast

FZUS53	KAPX	NSHAPX	Nearshore Forecast
FZUS53	KMQT	NSHMQT	Nearshore Forecast
FZUS53	KDLH	NSHDLH	Nearshore Forecast
FZUS81	KCLE	ICEFBO	Great Lakes Ice Freezup/Breakup
FZUS81	KCLE	ICELIO	Great Lakes Ice Outlook
FZUS73	KAPX	MWSAPX	Marine Weather Statement
FZUS73	KMQT	MWSMQT	Marine Weather Statement
FZUS73	KDLH	MWSDLH	Marine Weather Statement
WHUS53	KAPX	SMWAPX	Special Marine Warning
WHUS53	KMQT	SMWMQT	Special Marine Warning
WHUS53	KDLH	SMWDLH	Special Marine Warning
WHUS43	KAPX	CFWAPX	Lakeshore Hazard Message
WHUS43	KMQT	CFWMQT	Lakeshore Hazard Message
WHUS43	KDLH	CFWDLH	Lakeshore Hazard Message
&WHUS73	KAPX	MWWAPX	Marine Weather Message
&WHUS73	KMQT	MWWMQT	Marine Weather Message
&WHUS73	KDLH	MWWDLH	Marine Weather Message

Sector				
Lake Michigan (East)	FZUS63	KLOT	GLFLM	Lake Michigan, Open Lake Forecast
	FZUS53	KAPX	NSHAPX	Nearshore Forecast
	FZUS53	KGRR	NSHGRR	Nearshore Forecast
	FZUS53	KIWX	NSHIWX	Nearshore Forecast
	FZUS81	KCLE	ICEFBO	Great Lakes Ice Freezup/Breakup
	FZUS81	KCLE	ICELIO	Great Lakes Ice Outlook
	FZUS73	KAPX	MWSAPX	Marine Weather Statement
	FZUS73	KGRR	MWSGRR	Marine Weather Statement
	FZUS73	KIWX	MWSIWX	Marine Weather Statement
	WHUS53	KAPX	SMWAPX	Special Marine Warning
	WHUS53	KGRR	SMWGRR	Special Marine Warning
	WHUS53	KIWX	SMWIWX	Special Marine Warning
	WHUS43	KAPX	CFWAPX	Lakeshore Hazard Message
	WHUS43	KGRR	CFWGRR	Lakeshore Hazard Message
	WHUS43	KIWX	CFWIWX	Lakeshore Hazard Message
	&WHUS73	KAPX	MWWAPX	Marine Weather Message
	&WHUS73	KGRR	MWWGRR	Marine Weather Message
	&WHUS73	KIWX	MWWIWX	Marine Weather Message
	&FZUS53	KAPX	SRFAPX	Surf Zone Forecast
	&FZUS53	KGRR	SRFGRR	Surf Zone Forecast
	&FZUS53	KIWX	SRFIWX	Surf Zone Forecast

Sector				
Lake Michigan (West)	FZUS63	KLOT	GLFLM	Lake Michigan, Open Lake Forecast
	FZUS53	KGRB	NSHGRB	Nearshore Forecast
	FZUS53	KLOT	NSHLOT	Nearshore Forecast
	FZUS53	KMKX	NSHMKX	Nearshore Forecast
	FZUS53	KMQT	NSHMQT	Nearshore Forecast
	FZUS81	KCLE	ICEFBO	Great Lakes Ice Freezup/Breakup
	FZUS81	KCLE	ICELIO	Great Lakes Ice Outlook
	FZUS73	KGRB	MWSGRB	Marine Weather Statement
	FZUS73	KLOT	MWSLOT	Marine Weather Statement
	FZUS73	KMKX	MWSMKX	Marine Weather Statement

FZUS73	KMQT	MWSMQT	Marine Weather Statement
WHUS53	KGRB	SMWGRB	Special Marine Warning
WHUS53	KLOT	SMWLOT	Special Marine Warning
WHUS53	KMKX	SMWMKX	Special Marine Warning
WHUS53	KMQT	SMWMQT	Special Marine Warning
WHUS43	KGRB	CFWGRB	Lakeshore Hazard Message
WHUS43	KLOT	CFWLOT	Lakeshore Hazard Message
WHUS43	KMKX	CFWMKX	Lakeshore Hazard Message
WHUS43	KMQT	CFWMQT	Lakeshore Hazard Message
&WHUS73	KGRB	MWWGRB	Marine Weather Message
&WHUS73	KLOT	MWWLOT	Marine Weather Message
&WHUS73	KMKX	MWMKX	Marine Weather Message
&WHUS73	KMQT	MWMQT	Marine Weather Message
&FZUS53	KGRB	SRFGRB	Surf Zone Forecast
&FZUS53	KLOT	SRFLOT	Surf Zone Forecast
&FZUS53	KMKX	SRFMKX	Surf Zone Forecast
&FZUS53	KMQT	SRFMQT	Surf Zone Forecast

# 11th District

## Sector Humboldt Bay

@FZUS56	KPQR	CWFPQR	Coastal Waters Forecast
FZUS56	KMFR	CWFMFR	Coastal Waters Forecast
FZUS56	KEKA	CWFEKA	Coastal Waters Forecast
FZUS76	KMFR	MWSMFR	Marine Weather Statement
FZUS76	KEKA	MWSEKA	Marine Weather Statement
WHUS56	KMFR	SMWMFR	Special Marine Warning
WHUS56	KEKA	SMWEKA	Special Marine Warning
WHUS46	KMFR	CFWMFR	Coastal Hazard Message
WHUS46	KEKA	CFWEKA	Coastal Hazard Message
&WHUS76	KMFR	MWMFR	Marine Weather Message
&WHUS76	KEKA	MWEKA	Marine Weather Message
&FZUS56	KMFR	SRFMFR	Surf Zone Forecast
&FZUS56	KEKA	SRFEKA	Surf Zone Forecast
***ABPZ20	KNHC	TWOEP	Tropical WX Outlook
***WTPZ3n	KNHC	TCPEPn	Forecast/Advisory, Storm n, 1...5
**\$WEPA41	PAAQ	TSUWCA	Tsunami Advisory/Watch/Warning
*WEAK51	PAAQ	TSUAK1	Tsunami Public Message

## Sector San Francisco

FZUS56	KMTR	CWFMTR	Coastal Waters Forecast
FZUS56	KLOX	CWFLOX	Coastal Waters Forecast
FZUS76	KMTR	MWSMTR	Marine Weather Statement
FZUS76	KLOX	MWSLOX	Marine Weather Statement
WHUS56	KMTR	SMWMTR	Special Marine Warning
WHUS56	KLOX	SMWLOX	Special Marine Warning
WHUS46	KMTR	CFWMTR	Coastal Hazard Message
WHUS46	KLOX	CFWLOX	Coastal Hazard Message
&WHUS76	KMTR	MWMTR	Marine Weather Message
&WHUS76	KLOX	MWWLOX	Marine Weather Message
&FZUS56	KMTR	SRFMTR	Surf Zone Forecast
&FZUS56	KLOX	SRFLOX	Surf Zone Forecast
***ABPZ20	KNHC	TWOEP	Tropical WX Outlook
***WTPZ3n	KNHC	TCPEPn	Forecast/Advisory, Storm n, 1...5
**\$WEPA41	PAAQ	TSUWCA	Tsunami Advisory/Watch/Warning
*WEAK51	PAAQ	TSUAK1	Tsunami Public Message

Sector  
LA/Long Beach

FZUS56	KLOX	CWFLOX	Coastal Waters Forecast
FZUS56	KSGX	CWFSGX	Coastal Waters Forecast
FZUS76	KLOX	MWSLOX	Marine Weather Statement
FZUS76	KSGX	MWSSGX	Marine Weather Statement
WHUS56	KLOX	SMWLOX	Special Marine Warning
WHUS56	KSGX	SMWSGX	Special Marine Warning
WHUS46	KLOX	CFWLOX	Coastal Hazard Message
WHUS46	KSGX	CFWSGX	Coastal Hazard Message
&WHUS76	KLOX	MWWLOX	Marine Weather Message
&WHUS76	KSGX	MWWSGX	Marine Weather Message
&FZUS56	KLOX	SRFLOX	Surf Zone Forecast
&FZUS56	KSGX	SRFSGX	Surf Zone Forecast
***ABPZ20	KNHC	TWOEP	Tropical WX Outlook
***WTPZ3n	KNHC	TCPEPn	Forecast/Advisory, Storm n, 1...5
**\$WEPA41	PAAQ	TSUWCA	Tsunami Advisory/Watch/Warning
**WEAK51	PAAQ	TSUAK1	Tsunami Public Message

Sector  
San Diego

<i>FZUS56</i>	<i>KLOX</i>	<i>CWFLOX</i>	<i>Coastal Waters Forecast</i>
<i>FZUS56</i>	<i>KSGX</i>	<i>CWFSGX</i>	<i>Coastal Waters Forecast</i>
<i>FZUS76</i>	<i>KLOX</i>	<i>MWSLOX</i>	<i>Marine Weather Statement</i>
<i>FZUS76</i>	<i>KSGX</i>	<i>MWSSGX</i>	<i>Marine Weather Statement</i>
<i>WHUS56</i>	<i>KLOX</i>	<i>SMWLOX</i>	<i>Special Marine Warning</i>
<i>WHUS56</i>	<i>KSGX</i>	<i>SMWSGX</i>	<i>Special Marine Warning</i>
<i>WHUS46</i>	<i>KLOX</i>	<i>CFWLOX</i>	<i>Coastal Hazard Message</i>
<i>WHUS46</i>	<i>KSGX</i>	<i>CFWSGX</i>	<i>Coastal Hazard Message</i>
<i>&amp;WHUS76</i>	<i>KLOX</i>	<i>MWWLOX</i>	<i>Marine Weather Message</i>
<i>&amp;WHUS76</i>	<i>KSGX</i>	<i>MWWSGX</i>	<i>Marine Weather Message</i>
<i>&amp;FZUS56</i>	<i>KLOX</i>	<i>SRFLOX</i>	<i>Surf Zone Forecast</i>
<i>&amp;FZUS56</i>	<i>KSGX</i>	<i>SRFSGX</i>	<i>Surf Zone Forecast</i>
<i>***ABPZ20</i>	<i>KNHC</i>	<i>TWOEP</i>	<i>Tropical WX Outlook</i>
<i>***WTPZ3n</i>	<i>KNHC</i>	<i>TCPEPn</i>	<i>Forecast/Advisory, Storm n, 1...5</i>
<i>**\$WEPA41</i>	<i>PAAQ</i>	<i>TSUWCA</i>	<i>Tsunami Advisory/Watch/Warning</i>
<i>**WEAK51</i>	<i>PAAQ</i>	<i>TSUAK1</i>	<i>Tsunami Public Message</i>

13th District

Sector  
Seattle

FZUS56	KSEW	CWFSEW	Coastal Waters Forecast
FZUS76	KSEW	MWSSEW	Marine Weather Statement
WHUS56	KSEW	SMWSEW	Special Marine Warning
WHUS46	KSEW	CFWSEW	Coastal Hazard Message
&WHUS76	KSEW	MWWSEW	Marine Weather Message
&FZUS56	KSEW	SRFLEW	Surf Zone Forecast
***ABPZ20	KNHC	TWOEP	Tropical WX Outlook
***WTPZ3n	KNHC	TCPEPn	Forecast/Advisory, Storm n, 1...5
**\$WEPA41	PAAQ	TSUWCA	Tsunami Advisory/Watch/Warning
**WEAK51	PAAQ	TSUAK1	Tsunami Public Message

Sector  
Columbia River

FZUS56	KPQR	CWFPQR	Coastal Waters Forecast
FZUS76	KPQR	MWSPQR	Marine Weather Statement
WHUS56	KPQR	SMWPQR	Special Marine Warning
WHUS46	PPQR	CFWPQR	Coastal Hazard Message
&WHUS76	KPQR	MWWPQR	Marine Weather Message
&FZUS56	KSEW	SRFSEW	Surf Zone Forecast
***ABPZ20	KNHC	TWOEP	Tropical WX Outlook
***WTPZ3n	KNHC	TCPEPn	Forecast/Advisory, Storm n, 1...5

	**\$WEPA41	PAAQ	TSUWCA	Tsunami Advisory/Watch/Warning
	**WEAK51	PAAQ	TSUAK1	Tsunami Public Message
Sector				
North Bend	FZUS56	KPQR	CWFPQR	Coastal Waters Forecast
	FZUS56	KMFR	CWFMFR	Coastal Waters Forecast
	FZUS56	KEKA	CWFEKA	Coastal Waters Forecast
	FZUS76	KPQR	MWSPQR	Marine Weather Statement
	FZUS76	KMFR	MWFMFR	Marine Weather Statement
	FZUS76	KEKA	MWSEKA	Marine Weather Statement
	WHUS56	KPQR	SMWPQR	Special Marine Warning
	WHUS56	KMFR	SMWMFR	Special Marine Warning
	WHUS56	KEKA	SMWEKA	Special Marine Warning
	WHUS46	KPQR	CFWPQR	Coastal Hazard Message
	WHUS46	KMFR	CFWMFR	Coastal Hazard Message
	WHUS46	KEKA	CFWEKA	Coastal Hazard Message
	&WHUS76	KPQR	MWWPQR	Marine Weather Message
	&WHUS76	KMFR	MWWMFR	Marine Weather Message
	&WHUS76	KEKA	MWWEKA	Marine Weather Message
	&FZUS56	KPQR	SRFPQR	Surf Zone Forecast
	&FZUS56	KMFR	SRFMFR	Surf Zone Forecast
	&FZUS56	KEKA	SRFEKA	Surf Zone Forecast
	***ABPZ20	KNHC	TWOEP	Tropical WX Outlook
	***WTPZ3n	KNHC	TCPEPn	Forecast/Advisory, Storm n, 1...5
	**\$WEPA41	PAAQ	TSUWCA	Tsunami Advisory/Watch/Warning
	**WEAK51	PAAQ	TSUAK1	Tsunami Public Message

#### 14th District

Sector				
Honolulu	FZHW60	PHFO	OFFHFO	Offshore, HI
	FZHW51	PHFO	CWFHI1	Coastal Waters Forecast
	FZHW50	PHFO	CWFHFO	Coastal Waters Forecast
(The FZHW51 coast forecast is recommended for broadcast in lieu of the FZHW50 in order to conserve available broadcast time, however, local USCG operating units may find the FZHW50 to be of value.)				
	FZHW70	PHFO	MWSHFO	Marine Weather Statement
	WHHW50	PHFO	SMWHFO	Special Marine Warning
	&WHHW70	PHFO	MWWHFO	Marine Weather Message
	&FZHW52	PHFO	SRFHFO	Surf Zone Forecast
	***ACPN50	PHFO	TWOCF	Tropical WX Outlook, Central Pacific
	***WTPA3n	PHFO	TCPCPn	Forecast/Advisory, Storm n, 1...5
	**WEPA40	PHEB	TSUPAC	Tsunami Watch/Warning, C. Pacific
	**WEHW50	PHEB	TSUHW1	Public Tsunami Watch/Warning- Hawaii

Sector				
Guam	*FZMY50	PGUM	CWFMF	Coastal Waters Forecast
	*FZMY70	PGUM	MWSMF	Marine Weather Statement
	*WHMY50	PGUM	SMWMF	Special Marine Warning
	&WHGM70	PGUM	MWWGUM	Marine Weather Message
	&FZMY50	PGUM	SRFMF	Surf Zone Forecast
	* ***#WTPQ3n	PGUM	TCPPQn	Public Advisory, Storm n, 1..5
	**WEPA40	PHEB	TSUPAC	Tsunami Watch/Warning, C. Pacific

17th District

Sector  
Juneau

FZAK51 PAJK CWFAJK	SE Inner Coastal Waters
FZAK52 PAJK CWFAEG	SE Outside Coastal Waters
FZAK53 PAJK CWFYAK	Yakutat Bay
FZAK51 PAFC CWFAER	North Gulf Coast and Kodiak
(broadcast zones 120,121,125,126,127,128,129 only)	
FZAK77 PAJK MWSAJK	Marine Weather Statement
FZAK71 PAFC MWSAER	Marine Weather Statement
WHAK57 PAJK SMWAJK	Special Marine Warning
WHAK51 PAFC SMWAER	Special Marine Warning
WHAK47 PAJK CFWAJK	Coastal Hazard Message
WHAK41 PAFC CFWAER	Coastal Hazard Message
**\$WEPA41 PAAQ TSUWCA	Tsunami Advisory/Watch/Warning
**WEAK51 PAAQ TSUAK1	Tsunami Public Message

Note: The USCG has elected to broadcast forecasts or warnings from Sector Juneau as coverage overlaps with NOAA Weather Radio.

Sector  
ANCHORAGE  
(Kodiak Area)

FZAK51 PAFC CWFAER	North Gulf Coast and Kodiak
(broadcast zones 130,132, 136,137 138,140,141 only)	
FZAK52 PAFC CWFALU	Southwest AK and the Aleutians
(broadcast zones 150,155,160,165 only)	
FZAK80 PAFC ICEAFC	Ice
FZAK78 PAFC MWSAFC	Marine Weather Statement
FZAK79 PAFC MWSAFG	Marine Weather Statement
WHAK58 PAFC SMWAFG	Special Marine Warning
WHAK59 PAFC SMWAFG	Special Marine Warning
WHAK41 PAFC CFWAER	Coastal Hazard Message
WHAK42 PAFC CFWALU	Coastal Hazard Message
WHAK49 PAFC CFWAFG	Coastal Hazard Message
**\$WEPA41 PAAQ TSUWCA	Tsunami Advisory/Watch/Warning
**WEAK51 PAAQ TSUAK1	Tsunami Public Message

Note: The USCG has elected not to broadcast forecasts or warnings from Sector Anchorage as coverage overlaps with NOAA Weather Radio.

Sector  
ANCHORAGE cont'd  
(Valdez Area)

FZAK51 PAFC CWFAER	North Gulf Coast and Kodiak
(broadcast zones 120,121,125,126,127,128,129 only)	
FZAK78 PAFC MWSAFC	Marine Weather Statement
WHAK58 PAFC SMWAFG	Special Marine Warning
WHAK41 PAFC CFWAER	Coastal Hazard Message (east half)
WHAK42 PAFC CFWALU	Coastal Hazard Message (west half)
**\$WEPA41 PAAQ TSUWCA	Tsunami Advisory/Watch/Warning
**WEAK51 PAAQ TSUAK1	Tsunami Public Message

Note: The USCG has elected not to broadcast forecasts or warnings from Sector Anchorage as coverage overlaps with NOAA Weather Radio.

*Italics indicate that these products are not being routinely broadcast by the USCG at the present time.*

- & Not recommended for broadcast, however, these products contain information which may be of value to the USCG.
- @ These products broadcast by U.S. Coast Guard in addition to the minimum suite recommended by NWS.
- \* May not be transmitted to the U.S. Coast Guard via NOAA WX Wire, see: <http://www.nws.noaa.gov/om/marine/forecast.htm>
- \*\* Transmit advisory/watch/warnings only, not information/test messages. (Do not transmit advisories for products WEPA40 or WEHW50 until advised to do so by a later version of this document)
- \$ May be used as an alternative for broadcast if the Public Tsunami Message is unavailable. Contains supplementary information which may be of value to the USCG. Also used for monthly tsunami tests.
- \*\*\* Normally issued during hurricane season only, ~ May 15-Nov 30.

Coastal Waters Forecast	Routine Broadcast
Great Lakes Open Lake Forecast	Routine Broadcast
Nearshore Forecast	Routine Broadcast
Ice	Routine Broadcast
Marine Weather Statement	Upon Receipt <sup>1</sup> and Routine Broadcast
Special Marine Warning	Upon Receipt <sup>1</sup> and Routine Broadcast
Coastal/Lakeshore Hazard Message	Upon Receipt <sup>1</sup> and Routine Broadcast
Tropical WX Outlook	Upon Receipt <sup>1</sup> and Routine Broadcast
Public Advisory, Storm n, 1...5	Upon Receipt <sup>1</sup> and Routine Broadcast
Tsunami	Upon Receipt <sup>1</sup> and Routine Broadcast
Great Lakes Outlook For Storm Warnings	Upon Receipt <sup>1</sup> and Routine Broadcast
Great Lakes Storm Summary	Upon Receipt <sup>1</sup> and Routine Broadcast
Marine Weather Message	See note #2
Surf Forecast	See note #2

1. Warning type messages should be broadcast at time of receipt and as often as practicable consistent with level of danger posed to mariners receiving the broadcast. For short-term local events, an expiration time will often be listed in the warning. Questions regarding warnings may be addressed to the nearest National Weather Service Forecast Office. 24 hour unlisted numbers for these offices may be obtained by special arrangement.
2. These products contain information which may prove of value to the local operating unit. Although much of the content in these products is redundant with that of other products, and these products are not well suited to broadcast in their entirety, the USCG may wish to include portions of these products in their broadcasts.

## Richards Michael

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**From:** Wilson, Harold M CIV USN FLEWEACEN NORFOLK VA (USA) [REDACTED]@navy.mil>  
**Sent:** Thursday, July 15, 2021 1:14 PM  
**To:** Richards Michael <[REDACTED]@ntsb.gov>; Ehlers Andrew <[REDACTED]@ntsb.gov>; Engle, Richard H CIV USN FLEWEACEN NORFOLK VA (USA) [REDACTED]@us.navy.mil>; Wilson, Harold M CIV USN FLEWEACEN NORFOLK VA (USA) [REDACTED]@us.navy.mil>  
**Cc:** Papa, Michael James CDR USN FLEWEACEN NORFOLK VA (USA) [REDACTED]@navy.mil>; Dixon, Patrick A CIV USN COMNAVMETOCOM (USA) [REDACTED]@navy.mil>  
**Subject:** RE: NTSB Investigation: Requested Information

Mike IRT

- The date for the word doc is Feb 18<sup>th</sup>, 2014, correct? Not Feb 14<sup>th</sup>, 2018.

I got it as an attachment in an email dated 6/4/2014 so it should be 18 Feb 2014.

IRT:

- Has USCG provided you with any updated list of WMO headers since this original one? Or are you still using this original document to guide what you provide USCG?

No, I have nothing indicating an updated list nor do I remember seeing one. However we (our Command Duty Officer) did have a request for additional bulletins to be added (08 Oct 2015 from an [REDACTED] [REDACTED]@uscg.mil) which was forwarded to me. Below is what they requested:

1. CWFSJU= Coastal Waters Forecast for San Juan Puerto Rico: Update times- 0230Z, 0830Z, 1430Z and 2030Z
2. MWSSJU= Marine Weather Statement San Juan PR Update times:  
As required
3. MWSPN= Spanish version of Marine weather statement Update times:  
As required
4. SMWSJU= Special Marine Warning San Juan PR Update times:  
As required
5. SMWPN= (Spanish version of Special Marine Warning) Update times:  
As required
6. Atlantic Hurricane weather products. Update times:  
As required

This was my reply (highlighted the bits that I thought to be important to you in red):

IRT the USCG request below:

1. CWFSJU= Coastal Waters Forecast for San Juan Puerto Rico: Update times- 0230Z, 0830Z, 1430Z and 2030Z  
MANOP FZCA52 TJSJ -- 0 sent -- nothing in our database either so we have not been receiving them via NOAAPORT. I have no way of checking if NOAA is actually putting the bulletins in the stream.
2. MWSSJU= Marine Weather Statement San Juan PR Update times:



As required

3. MWSSPN= Spanish version of Marine weather statement      Update times:

As required

Number 2 and 3 fall under MANOP FZCA72 TJSJ -- 23 total sent for FZCA72 TJSJ since 02OCT15 --

4. SMWSJU= Special Marine Warning San Juan PR      Update times:

As required -- WHCA52 TJSJ -- missing added

5. SMWSPN= (Spanish version of Special Marine Warning)      Update times:

As required -- WHCA52 TJSJ -- missing added

6. Atlantic Hurricane weather products.      Update times:

As required

For this one, need more specifics. Which products by PIL (like numbers 1-5) or by MANOP header. [http://forecast.weather.gov/product\\_types.php?site=NWS](http://forecast.weather.gov/product_types.php?site=NWS) may help them with that.

OS1 replied with the following:

Good day MR Wilson,

WTNT21 KNHC (TCMAT1) and WTNT61 KNHC (TCUAT1) are the hurricane products I was talking about in the initial email request. Just to inform you, we started receiving the Coastal waters forecast (FZCA52 TJSJ) already. Thanks to all involved for your efforts and hope you all have a great day.

My reply after that:

OS1, WTNT21 KNHC is already being guarded for. I added WTNT61. IRT your earlier email, we don't receive from any NOAA website, we receive the data via satellite and as stated there is no specific schedule for the products that we receive on it. Basically we get whatever NOAA puts on it for data and when they put it there, no control on it at this end at all.

Last issue during this timeframe (Oct 2015)

CWFSJU (FZCA52 TJSJ). The weather product is incomplete.

This was due to a \$\$ sequence in the product which was corrected.

v/r

Harold Marshall Wilson

Meteorologist

Fleet Weather Center

9141 Third Avenue

Norfolk, Virginia

NIPR EMAIL: [REDACTED]@navy.mil

SIPR EMAIL: [REDACTED]@navy.smil.mil

"When you have eliminated the impossible, whatever remains,  
however improbable, must be the truth."  
Arthur Conan Doyle

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From: Richards Michael [REDACTED]@ntsb.gov>  
Sent: Thursday, July 15, 2021 1:12 PM  
To: Wilson, Harold M CIV USN FLEWEACEN NORFOLK VA (USA) [REDACTED]@navy.mil>; Ehlers Andrew  
<[REDACTED]@ntsb.gov>; Engle, Richard H CIV USN FLEWEACEN NORFOLK VA (USA)  
[REDACTED]@us.navy.mil>; Wilson, Harold M CIV USN FLEWEACEN NORFOLK VA (USA)  
[REDACTED]@us.navy.mil>; Richards Michael [REDACTED]@ntsb.gov>  
Subject: [Non-DoD Source] RE: NTSB Investigation: Requested Information

Marshall, thank you very much! And look forward to any logs if they are available. Two quick questions...

- The date for the word doc is Feb 18<sup>th</sup>, 2014, correct? Not Feb 14<sup>th</sup>, 2018.
- Has USCG provided you with any updated list of WMO headers since this original one? Or are you still using this original document to guide what you provide USCG?

Thank you,  
Mike

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From: Wilson, Harold M CIV USN FLEWEACEN NORFOLK VA (USA) <[REDACTED]@navy.mil>  
Sent: Thursday, July 15, 2021 12:03 PM  
To: Ehlers Andrew [REDACTED]@ntsb.gov>; Engle, Richard H CIV USN FLEWEACEN NORFOLK VA (USA)  
[REDACTED]@us.navy.mil>; Wilson, Harold M CIV USN FLEWEACEN NORFOLK VA (USA)  
<[REDACTED]@us.navy.mil>  
Cc: Richards Michael [REDACTED]@ntsb.gov>  
Subject: RE: NTSB Investigation: Requested Information

Drew, still checking to see if I can get the logs for April 13<sup>th</sup> but here is some of the other information:

List of Coast Guard WMOs and a ballpark timeframe that the NOAAPort-FLEWEACEN-Coast Guard arrangement began.  
**Original Word Document with the list attached (uscglist18Feb14.doc)**  
A sample NAVTEX as transmitted to Coast Guard, with the CG PLAD (if not provided in request #3). **Two from today attached (19644635.5OU.txt and 19644400.0OU.txt), I added the .txt to make them easier to open for you.**

IRT the list, we guard for those but obviously if they aren't transmitted via NOAAPORT we wouldn't be sending anything out. We have no control over what NOAA puts out over that satellite feed.

Email addresses I use when issues arise:

[REDACTED]OSS2 [REDACTED]@uscg.mil  
[REDACTED]CIV [REDACTED]@uscg.mil  
COM-DG-M-MAINT [REDACTED]@uscg.mil  
COM-DG-M-CWO Watchstanders [REDACTED]@uscg.mil>

For the start date of support, these two email bodies should answer it for you:

"

7/13/2015

Email from CDR [REDACTED] [REDACTED]@uscg.mil>

Good morning,

We are receiving weather messages via C2OIX, many thanks to FLEWEACEN for engineering the solution!

Receipt via C2OIX resolves half of the broadcast issue (having wx products available for broadcast).

The 2nd half is wholly ours; re-engineering of the software removing CGMS (old messaging system), which includes accepting C2OIX messages for broadcast (VOBRA, NAVTEX, & SITOR). We anticipate having a solution in place to meet 03AUG deadline with minimal interruption to broadcasts.

V/R,

[REDACTED]  
C3CEN CAMS Product Line (PL-M)

7/7/2015

Good morning,

We are receiving weather! Congratulations & thank you, this resolves a major problem for continuation of USCG weather broadcasts.

Could you let me know how difficult it might be to change the PLAD? I just learned that once we close down CGMS on Aug 3rd, a new C2OIX PLAD (COGARD WXCKT TISCOM ALEXANDRIA VA) has been established. If possible, could you add that address & discontinue the CAMSLANT address?

Again, thank you!

[REDACTED]  
CAMS Product Line

"

if I can get my hands on the log for that day, I will pass the information to you.

v/r

Harold Marshall Wilson  
Meteorologist  
Fleet Weather Center  
9141 Third Avenue  
Norfolk, Virginia  
NIPR EMAIL: [REDACTED]@navy.mil  
SIPR EMAIL: [REDACTED]@navy.smil.mil  
[REDACTED]

"When you have eliminated the impossible, whatever remains,  
however improbable, must be the truth."

Arthur Conan Doyle

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**From:** Ehlers Andrew <[REDACTED]@ntsb.gov>

**Sent:** Thursday, July 15, 2021 11:45 AM

**To:** Engle, Richard H CIV USN FLEWEACEN NORFOLK VA (USA) <[REDACTED]@us.navy.mil>; Wilson, Harold M CIV USN FLEWEACEN NORFOLK VA (USA) <[REDACTED]@us.navy.mil>

**Cc:** Richards Michael <[REDACTED]@ntsb.gov>

**Subject:** [Non-DoD Source] NTSB Investigation: Requested Information

Richard and Marshall,

Thanks again for talking with us today. As noted on the call, we request the following information as a follow-up to the discussion:

1. List of Coast Guard WMOs and a ballpark timeframe that the NOAA Port-FLEWEACEN-Coast Guard arrangement began.
2. A sample NAVTEX as transmitted to Coast Guard, with the CG PLAD (if not provided in request #3).
3. Comeback copies (or log of comeback copies) of NAVTEX messages sent to Coast Guard on April 13, 2021, between 1100Z and 2300Z.

We understand that the info we are requesting requires you to dig into archives and may or may not be available. Anything you can put together for us would be helpful.

Thanks and V/R,  
Drew

Andrew C. "Drew" Ehlers  
Marine Accident Investigator  
National Transportation Safety Board (NTSB)

[REDACTED]  
[REDACTED]@ntsb.gov

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National Weather Service Products Recommended for Broadcast on USCG HF VOBRA

STATION, ID	NWS IDENTIFIER	PRODUCT
Chesapeake, VA NMN	FZNT01 KWBC HSFAT1	High Seas Forecast, Atlantic and Gulf
	<b>FZNT33 KWBC OFFN31</b>	<b>Broadcast text offshore New England</b>
	<b>FZNT34 KWBC OFFN32</b>	<b>Broadcast text offshore Mid-Atlantic</b>
	<b>&amp;FZNT21 KWBC OFFNT1</b>	<b>Offshore New England</b>
	<b>&amp;FZNT22 KWBC OFFNT2</b>	<b>Offshore Mid-Atlantic</b>
	&FZNT23 KNHC OFFNT3	Offshore SW N. Atlantic and Caribbean
	&FZNT24 KNHC OFFNT4	Offshore Gulf of Mexico
	FZNT31 KNHC OFFN20	Broadcast Text SW N Atlantic and
	FZNT32 KNHC OFFN21	Broadcast Text Gulf of Mexico
	#ABNT20 KNHC TWOAT	Tropical WX Outlook
Caribbean	***WTNT2n KNHC TCMATn	Forecast/Advisory, Storm n, 1...5
	**\$WEXX20 PAAQ TSUAT1	Tsunami Advisory/Watch/Warning
	**WEXX30 PAAQ TSUATE	Tsunami Public Message
	FZNT01 KWBC HSFAT1	High Seas Forecast, Atlantic and Gulf
	<b>FZNT33 KWBC OFFN31</b>	<b>Broadcast text offshore New England</b>
	<b>FZNT34 KWBC OFFN32</b>	<b>Broadcast text offshore Mid-Atlantic</b>
	<b>&amp;FZNT21 KWBC OFFNT1</b>	<b>Offshore New England</b>
	<b>&amp;FZNT22 KWBC OFFNT2</b>	<b>Offshore Mid-Atlantic</b>
	&FZNT23 KNHC OFFNT3	Offshore SW N. Atlantic and Caribbean
	&FZNT24 KNHC OFFNT4	Offshore Gulf of Mexico
New Orleans, LA NMG	FZNT31 KNHC OFFN20	Broadcast Text SW N Atlantic and
	FZNT32 KNHC OFFN21	Broadcast Text Gulf of Mexico
	#ABNT20 KNHC TWOAT	Tropical WX Outlook
	***WTNT2n KNHC TCMATn	Forecast/Advisory, Storm n, 1...5
	**\$WEXX20 PAAQ TSUAT1	Tsunami Advisory/Watch/Warning
	**WEXX30 PAAQ TSUATE	Tsunami Public Message
	FZNT01 KWBC HSFAT1	High Seas Forecast, Atlantic and Gulf
	<b>FZNT33 KWBC OFFN31</b>	<b>Broadcast text offshore New England</b>
	<b>FZNT34 KWBC OFFN32</b>	<b>Broadcast text offshore Mid-Atlantic</b>
	<b>&amp;FZNT21 KWBC OFFNT1</b>	<b>Offshore New England</b>
Caribbean	<b>&amp;FZNT22 KWBC OFFNT2</b>	<b>Offshore Mid-Atlantic</b>
	&FZNT23 KNHC OFFNT3	Offshore SW N. Atlantic and Caribbean
	&FZNT24 KNHC OFFNT4	Offshore Gulf of Mexico
	FZNT31 KNHC OFFN20	Broadcast Text SW N Atlantic and
	FZNT32 KNHC OFFN21	Broadcast Text Gulf of Mexico
	#ABNT20 KNHC TWOAT	Tropical WX Outlook
	***WTNT2n KNHC TCMATn	Forecast/Advisory, Storm n, 1...5
	**\$WEXX20 PAAQ TSUAT1	Tsunami Advisory/Watch/Warning
	**WEXX30 PAAQ TSUATE	Tsunami Public Message
	FZPN02 KWBC HSFEP1	High Seas Forecast, Pacific
Kodiak, AK NOJ	FZAK67 PAJK OFFAJK	Eastern Gulf of Alaska
	FZAK61 PAFC OFFAER	Western Gulf of Alaska
	FZAK62 PAFC OFFALU	Bering Sea
	^@FZAK52 PAJK CWFAEG	SE Outside Coastal Waters
	^@FZAK51 PAFC CWFAER	North Gulf Coast and Kodiak
	^@FZAK52 PAFC CWFALU	Southwest AK and the Aleutians
	^@FZAK59 PAFC CWFAPG	Western AK and the Arctic Coast
	^@FZAK80 PAFC ICEAFC	Sea Ice Advisory
	^FZAK53 PAJK CWFYAK	Yakutat Bay
	**\$WEPA41 PAAQ TSUWCA	Tsunami Advisory/Watch/Warning
Pt. Reyes, CA NMC	**WEAK51 PAAQ TSUAK1	Tsunami Public Message
	FZPN01 KWBC HSFEP1	High Seas Forecast, NE Pacific
	<b>FZPN35 KWBC OFFN35</b>	<b>Broadcast text offshore WA/OR 60-250 nm</b>
	<b>FZPN36 KWBC OFFN36</b>	<b>Broadcast text offshore CA, 60-250 nm</b>
	<b>&amp;FZPN25 KWBC OFFPZ5</b>	<b>Offshore WA/OR 60-250 nm</b>
	<b>&amp;FZPN26 KWBC OFFPZ6</b>	<b>Offshore CA, 60-250 nm</b>
	#ABPZ20 KNHC TWOEP	Tropical WX Outlook, Eastern Pacific
	**\$WEPA41 PAAQ TSUWCA	Tsunami Advisory/Watch/Warning
	**WEAK51 PAAQ TSUAK1	Tsunami Public Message
	FZPN01 KWBC HSFEP1	High Seas Forecast, NE Pacific

Honolulu HI	FZPN02 KWBC HSFEPI	High Seas Forecast, Pacific
NMO	FZPS40 PHFO HSFSP	High Seas Forecast, 25S-Eq, 160E-120W
	FZHW60 PHFO OFFHFO	Offshore, HI
	#ACPN50 PHFO TWOCp	<i>Tropical WX Outlook, Central Pacific</i>
	***#WTPA2n PHFO TCMCPn	<i>Forecast/Advisory, Storm n, 1...5</i>
	**WEPA40 PHEB TSUPAC	Tsunami Watch/Warning - Central Pacific
	**WEHW50 PHEB TSUHW1	Public Tsunami Watch/Warning - Hawaii
Guam	FZPN02 KWBC HSFEPI	High Seas Forecast, Pacific
NRV	* ****#WTPQ3n PGUM TCPPQn	Public Advisory, Storm n, 1...5
	**WEPA40 PHEB TSUPAC	Tsunami Watch/Warning - Central Pacific

*Italics indicate that these products are not being routinely broadcast by the USCG at the present time.*

- \* May not be transmitted to the U.S. Coast Guard via NOAA WX Wire, see:  
<http://www.nws.noaa.gov/om/marine/forecast.htm>
- \*\* Transmit advisory/watch/warnings only, not information/test messages. (Do not transmit advisories for products WEPA40 or WEHW50 until advised to do so by a later version of this document)
- \$ May be used as an alternative for broadcast if the Public Tsunami Message is unavailable. Contains supplementary information which may be of value to the USCG. Also used for monthly tsunami tests.
- \*\*\* Normally issued during hurricane season only, ~ May 15-Nov 30.  
At present, hurricane forecast/advisories are only being broadcast from NMN/NMG within available USCG resources and due to technical limitations. Critical hurricane information is contained within high seas and offshore forecasts, however, forecast/advisories contain amplifying information of value to mariners. Current broadcast schedules may preclude broadcast of these products until such time that schedules may be rearranged.
- # Not currently broadcast via HF VOBRA. To be broadcast during hurricane season only, ~ May 15-Nov 30. Current broadcast schedules may preclude broadcast of these products until such time that schedules may be rearranged.  
The Tropical Weather Outlooks are very concise forecasts containing information on the formation of tropical storm systems which would be of value to mariners.
- @ Would be of benefit to mariners if these could be broadcast within available resources.
- ^ These products broadcast by U.S. Coast Guard in addition to the minimum suite recommended by NWS.
- & Not recommended for broadcast, however, these products contain information which may be of value to the USCG.

National Weather Service Products Recommended for Broadcast on HF SITOR

STATION, ID	NWS IDENTIFIER	PRODUCT
Boston, MA NMN	FZNT01 KWBC HSFAT1 <b>FZNT33 KWBC OFFN31</b> <b>#FZNT34 KWBC OFFN32</b> <b>#&amp;FZNT21 KWBC OFFNT1</b> <b>#&amp;FZNT22 KWBC OFFNT2</b> #&FZNT23 KNHC OFFNT3 #&FZNT24 KNHC OFFNT4 #FZNT31 KNHC OFFN20	High Seas Forecast, Atlantic and Gulf <b>Broadcast text offshore New England</b> <b>Broadcast text offshore Mid-Atlantic</b> <b>Offshore New England</b> <b>Offshore Mid-Atlantic</b> Offshore SW N. Atlantic and Caribbean Offshore Gulf of Mexico Broadcast Text SW N Atlantic and
Caribbean	#FZNT32 KNHC OFFN21 ***#ABNT20 KNHC TWOAT ***#WTNT2n KNHC TCMATn **\$WEXX20 PAAQ TSUAT1 **WEXX30 PAAQ TSUATE	Broadcast Text Gulf of Mexico Tropical WX Outlook Forecast/Advisory, Storm n, 1...5 Tsunami Advisory/Watch/Warning Tsunami Public Message
Pt. Reyes, CA NMC	FZPN02 KWBC HSFEP1 <b>FZPN35 KWBC OFFN35</b> <b>FZPN36 KWBC OFFN36</b> <b>&amp;FZPN25 KWBC OFFPZ5</b> <b>&amp;FZPN26 KWBC OFFPZ6</b> @TBUS01 KNES SAT1 @TBUS02 KNES SAT2 @TBUS03 KNES SAT3 @TBUS04 KNES SAT4 @TBUS07 KNES SAT7 ***#ABPZ20 KNHC TWOEP ***#WTPZ2n KNHC TCMEPn **\$WEPA41 PAAQ TSUWCA **WEAK51 PAAQ TSUAK1	High Seas Forecast, Pacific <b>Broadcast text offshore WA/OR 60-250 nm</b> <b>Broadcast text offshore CA, 60-250 nm</b> <b>Offshore WA/OR 60-250 nm</b> <b>Offshore CA, 60-250 nm</b> Polar Orbit Predictions, NOAA 17 Polar Orbit Predictions, NOAA 19 Polar Orbit Predictions, NOAA 15 Polar Orbit Predictions, NOAA 16 Polar Orbit Predictions, NOAA 18 Tropical WX Outlook Forecast/Advisory, Storm n, 1...5 Tsunami Advisory/Watch/Warning Tsunami Public Message
Honolulu, HI NMO	FZPN02 KWBC HSFEP1 FZPS40 PHFO HSFSP FZHW60 PHFO OFFHFO ***#ABPZ20 KNHC TWOEP ***#ACP50 PHFO TWOC ***#WTPZ2n KNHC TCMEPn ***#WTPA2n PHFO TCMCPn **\$WEPA40 PHEB TSUPAC **WEHW50 PHEB TSUHW1	High Seas Forecast, Pacific High Seas Forecast, 25S-Eq, 160E-120W Offshore, HI Tropical WX Outlook, Eastern Pacific Tropical WX Outlook, Central Pacific Forecast/Advisory, Storm n, 1...5 Forecast/Advisory, Storm n, 1...5 Tsunami Watch/Warning - Central Pacific Public Tsunami Watch/Warning - Hawaii
Guam NRV	FZPN02 KWBC HSFEP1 * ***#WTPQ3n PGUM TCPPQn	High Seas Forecast, Pacific Public Advisory, Storm n, 1...5

*Italics indicate that these products are not being routinely broadcast by the USCG at the present time.*

- \* May not be transmitted to the U.S. Coast Guard via NOAA WX Wire, see:  
<http://www.nws.noaa.gov/om/marine/forecast.htm>
- \*\* Transmit advisory/watch/warnings only, not information/test messages. (Do not transmit advisories for products WEPA40 or WEHW50 until advised to do so by a later version of this document)
- \$ May be used as an alternative for broadcast if the Public Tsunami Message is unavailable. Contains supplementary information which may be of value to the USCG. Also used for monthly tsunami tests.
- \*\*\* Normally broadcast during hurricane season only, ~ May 15-NOV 30.
- # These products are not currently broadcast via HF SITOR but would be of benefit to mariners. Current broadcast schedules may preclude broadcast of these products until such time that schedules may be rearranged.
- @ These products broadcast at the request of mariners.
- & Not recommended for broadcast, however, these products contain information which may be of value to the USCG.



National Weather Service Products Recommended for Broadcast on NAVTEX 518 kHz

STATION, ID	NWS IDENTIFIER	PRODUCT
Boston, MA (F)	FZNT23 KWNM OFFN01	NAVTEX Broadcast
	FZUS71 KCAR MWSCAR	Marine Weather Statement
	FZUS71 KGYX MWSGYX	Marine Weather Statement
	FZUS71 KBOX MWSBOX	Marine Weather Statement
	FZUS71 KOKX MWSOKX	Marine Weather Statement
	FZUS71 KPHI MWSPHI	Marine Weather Statement
	WHUS51 KCAR SMWCAR	Special Marine Warning
	WHUS51 KGYX SMWGYX	Special Marine Warning
	WHUS51 KBOX SMWBOX	Special Marine Warning
	WHUS51 KOKX SMWOKX	Special Marine Warning
	WHUS51 KPHI SMWPHI	Special Marine Warning
	**\$WEXX20 PAAQ TSUAT1	Tsunami Advisory/Watch/Warning
	**WEXX30 PAAQ TSUATE	Tsunami Public Message
Portsmouth, VA (N)	FZNT24 KWNM OFFN02	NAVTEX Broadcast
	FZUS71 KPHI MWSPHI	Marine Weather Statement
	FZUS71 KLWX MWSLWX	Marine Weather Statement
	FZUS71 KAKQ MWSAQ	Marine Weather Statement
	FZUS72 KMHX MWSMHX	Marine Weather Statement
	FZUS72 KILM MWSILM	Marine Weather Statement
	WHUS51 KPHI SMWPHI	Special Marine Warning
	WHUS51 KLWX SMWLWX	Special Marine Warning
	WHUS51 KAKQ SMWAKQ	Special Marine Warning
	WHUS52 KMHX SMWMHX	Special Marine Warning
	WHUS52 KILM SMWILM	Special Marine Warning
	**\$WEXX20 PAAQ TSUAT1	Tsunami Advisory/Watch/Warning
	**WEXX30 PAAQ TSUATE	Tsunami Public Message
Charleston, SC (E)	FZNT25 KWNM OFFN03	NAVTEX Broadcast
	FZUS72 KCHS MWSCHS	Marine Weather Statement
	FZUS72 KJAX MWSJAX	Marine Weather Statement
	WHUS52 KCHS SMWCHS	Special Marine Warning
	WHUS52 KJAX SMWJAX	Special Marine Warning
	**\$WEXX20 PAAQ TSUAT1	Tsunami Advisory/Watch/Warning
	**WEXX30 PAAQ TSUATE	Tsunami Public Message

Miami, FL (A)	FZNT25	KNHC	OFFN04	NAVTEX Broadcast
	FZUS72	KMLB	MWSMLB	Marine Weather Statement
	FZUS72	KMFL	MWSMFL	Marine Weather Statement
	FZUS72	KKEY	MWSKEY	Marine Weather Statement
	FZUS72	KTBW	MWSTBW	Marine Weather Statement
	WHUS52	KMLB	SMWMLB	Special Marine Warning
	WHUS52	KMFL	SMWMFL	Special Marine Warning
	WHUS52	KKEY	SMWKEY	Special Marine Warning
	WHUS52	KTBW	SMWTBW	Special Marine Warning
	**\$WEXX20	PAAQ	TSUAT1	Tsunami Advisory/Watch/Warning
**WEXX30	PAAQ	TSUATE	Tsunami Public Message	
San Juan PR (R)	FZNT26	KNHC	OFFN05	NAVTEX Broadcast
	FZCA72	TJSJ	MWSSJU	Marine Weather Statement
	WHCA52	TJSJ	SMWSJU	Special Marine Warning
	**\$WEXX20	PAAQ	TSUAT1	Tsunami Advisory/Watch/Warning
	**WEXX30	PAAQ	TSUATE	Tsunami Public Message
New Orleans, LA (G)	FZNT27	KNHC	OFFN06	NAVTEX Broadcast
	FZUS72	KTBW	MWSTBW	Marine Weather Statement
	FZUS72	KTAE	MWSTAE	Marine Weather Statement
	FZUS74	KMOB	MWSMOB	Marine Weather Statement
	FZUS74	KLIX	MWSLIX	Marine Weather Statement
	FZUS74	KLCH	MWSLCH	Marine Weather Statement
	FZUS74	KHGX	MWSHGX	Marine Weather Statement
	FZUS74	KCRP	MWSCRCP	Marine Weather Statement
	FZUS74	KBRO	MWSBRO	Marine Weather Statement
	WHUS52	KTBW	SMWTBW	Special Marine Warning
	WHUS52	KTAE	SMWTAE	Special Marine Warning
	WHUS54	KMOB	SMWMOB	Special Marine Warning
	WHUS54	KLIX	SMWLIX	Special Marine Warning
	WHUS54	KLCH	SMWLCH	Special Marine Warning
	WHUS54	KHGX	SMWHGX	Special Marine Warning
	WHUS54	KCRP	SMWCRP	Special Marine Warning
	WHUS54	KBRO	SMWBRO	Special Marine Warning
	**\$WEXX20	PAAQ	TSUAT1	Tsunami Advisory/Watch/Warning
	**WEXX30	PAAQ	TSUATE	Tsunami Public Message
	Kodiak, AK (J)	FZAK67	PAJK	OFFAJK
FZAK61		PAFC	OFFAER	Western Gulf of Alaska
FZAK61		PAJK	OFFN11	NAVTEX Broadcast SE AK
FZAK63		PAFC	OFFN12	NAVTEX Broadcast N Gulf
WHAK57		PAJK	SMWAJK	Special Marine Warning
WHAK58		PAFC	SMWAFC	Special Marine Warning
FZAK77		PAJK	MWSAJK	Marine Weather Statement
FZAK78		PAFC	MWSAFC	Marine Weather Statement
^@FZAK80		PAFC	ICEAFC	Sea Ice Advisory
<i>(when advisory contains</i>			<i>Cook Inlet information only)</i>	
**\$WEPA41		PAAQ	TSUWCA	Tsunami Advisory/Watch/Warning
**WEAK51		PAAQ	TSUAK1	Tsunami Public Message
Kodiak, AK (X)	FZAK62	PAFC	OFFALU	BERING SEA
	FZAK64	PAFC	OFFN13	NAVTEX Broadcast W AK
	FZAK62	PAFG	OFFN14	NAVTEX Broadcast Artic
	FZAK61	PAFG	OFFN15	NAVTEX Broadcast Western Alaska

	WHAK58	PAFC	SMWAFB	Special Marine Warning
	WHAK59	PAFG	SMWAFB	Special Marine Warning
	FZAK78	PAFC	MWSAFB	Marine Weather Statement
	FZAK79	PAFG	MWSAFB	Marine Weather Statement
	FZAK80	PAFC	ICEAFB	Sea Ice Advisory
	**\$WEPA41	PAAQ	TSUWCA	Tsunami Advisory/Watch/Warning
	**WEAK51	PAAQ	TSUAK1	Tsunami Public Message
Astoria, OR (W)	FZPN24	KWNM	OFFN09	NAVTEX Broadcast
	FZUS76	KSEW	MWSSEW	Marine Weather Statement
	FZUS76	KPQR	MWSMFR	Marine Weather Statement
	FZUS76	KMFR	MWSMFR	Marine Weather Statement
	WHUS56	KSEW	SMWSEW	Special Marine Warning
	WHUS56	KPQR	SMWPMR	Special Marine Warning
	WHUS56	KMFR	SMWPMR	Special Marine Warning
	**\$WEPA41	PAAQ	TSUWCA	Tsunami Advisory/Watch/Warning
	**WEAK51	PAAQ	TSUAK1	Tsunami Public Message
Pt. Reyes, CA (C)	FZPN23	KWNM	OFFN08	NAVTEX Broadcast
	FZUS76	KEKA	MWSEKA	Marine Weather Statement
	FZUS76	KMTR	MWSMTR	Marine Weather Statement
	WHUS56	KEKA	SMWSEKA	Special Marine Warning
	WHUS56	KMTR	SMWPMR	Special Marine Warning
	\$WEPA41	PAAQ	TSUWCA	Tsunami Advisory/Watch/Warning
	**WEAK51	PAAQ	TSUAK1	Tsunami Public Message
Cambria, CA (Q)	FZPN22	KWNM	OFFN07	NAVTEX Broadcast
	FZUS76	KLOX	MWSLOX	Marine Weather Statement
	FZUS76	KSGX	MWSGSGX	Marine Weather Statement
	WHUS56	KLOX	SMWLOX	Special Marine Warning
	WHUS56	KSGX	SMWSGSGX	Special Marine Warning
	**\$WEPA41	PAAQ	TSUWCA	Tsunami Advisory/Watch/Warning
	**WEAK51	PAAQ	TSUAK1	Tsunami Public Message
Marianas, (V)	*FZMY50	PGUM	CWFMF	Coastal Waters Forecast
	FZMY70	PGUM	MWSMF	Marine Weather Statement
	WHMY50	PGUM	SMWMF	Special Marine Warning
	**#WEPA40	PHEB	TSUPAC	<i>Tsunami Watch/Warning - Central Pac</i>
Honolulu, HI (O)	FZHW61	PHFO	OFFN10	NAVTEX Broadcast
	FZHW70	PHFO	MWSHFO	Marine Weather Statement
	WHHW50	PHFO	SMWHFO	Special Marine Warning
	**#WEPA40	PHEB	TSUPAC	<i>Tsunami Watch/Warning - Central Pac</i>
	**WEHW50	PHEB	TSUHW1	Public Tsunami Watch/Warning- Hawaii

*Italics indicate that these products are not being routinely broadcast by the USCG at the present time.*

\* May not be transmitted to the U.S. Coast Guard via NOAA WX Wire, see:  
<http://www.nws.noaa.gov/om/marine/forecast.htm>

\*\* Transmit advisory/watch/warnings only, not information/test messages. (Do not transmit advisories for products WEPA40 or WEHW50 until advised to do so by a later version of this document). Tsunami warnings should be transmitted as navigational warnings via NAVTEX (subject indicator "A")

\$     May be used as an alternative for broadcast if the Public Tsunami Message is unavailable. Contains supplementary information which may be of value to the USCG. Also used for monthly tsunami tests.

OTTUZYUW RHSSXYZ0001 1961623-UUUU--RHSSSUU.  
ZNR UUUUU  
O 151623Z JUL 21 MID600050806852U  
FM FLEWEACEN NORFOLK VA  
TO COGARD WXCKT TISCOM ALEXANDRIA VA  
INFO FLEWEACEN NORFOLK VA  
BT  
UNCLAS  
MSGID/GENADMIN/FLEWEACEN NORFOLK VA//  
SUBJ/FZPN01 KWBC 151622//  
POC/COMMAND DUTY OFFICER/-/FLEWEACEN NORFOLK VA/LOC:NORFOLK VA/

RMKS/FZPN01 KWBC 151622

HSFEP1

HIGH SEAS FORECAST

NWS OCEAN PREDICTION CENTER WASHINGTON DC

1630 UTC THU JUL 15 2021

SUPERSEDED BY NEXT ISSUANCE IN 6 HOURS

SEAS GIVEN AS SIGNIFICANT WAVE HEIGHT...WHICH IS THE AVERAGE  
HEIGHT OF THE HIGHEST 1/3 OF THE WAVES. INDIVIDUAL WAVES MAY BE  
MORE THAN TWICE THE SIGNIFICANT WAVE HEIGHT.

ONLY YOU KNOW THE WEATHER AT YOUR POSITION. REPORT IT TO THE  
NATIONAL WEATHER SERVICE. EMAIL US AT

VOSOPS@NOAA.GOV (LOWERCASE) .

SECURITE

PACIFIC N OF 30N AND S OF 67N E OF A LINE FROM BERING STRAIT  
TO 50N 160E

ALL FORECASTS VALID OVER ICE FREE FORECAST WATERS

SYNOPSIS VALID 1200 UTC JUL 15.

24 HOUR FORECAST VALID 1200 UTC JUL 16.

48 HOUR FORECAST VALID 1200 UTC JUL 17.

.WARNINGS.

.NONE.

.SYNOPSIS AND FORECAST.

.LOW 54N143W 1004 MB MOVING SE 10 KT. WITHIN 240 NM N AND S...AND  
180 NM W QUADRANTS...AND BETWEEN 300 NM AND 600 NM S QUADRANT  
WINDS 20 TO 30 KT. SEAS TO 11 FT.

.24 HOUR FORECAST LOW 52N139W 1006 MB. WITHIN 480 NM S AND 360 NM  
W QUADRANTS WINDS 20 TO 30 KT. SEAS TO 11 FT.

.48 HOUR FORECAST LOW 51N133W 1011 MB. WITHIN 360 NM S QUADRANT  
WINDS TO 25 KT. SEAS TO 8 FT.

.FROM 36N TO 41N BETWEEN 123W AND 127W AREA OF NW TO N WINDS 20  
TO 30 KT. SEAS TO 10 FT.

.24 HOUR FORECAST FROM 36N TO 41N BETWEEN 123W AND 127W AREA OF  
NW TO N WINDS 20 TO 30 KT. SEAS TO 10 FT.

.48 HOUR FORECAST FROM 35N TO 40N BETWEEN 123W AND 126W AREA OF  
NW TO N WINDS 20 TO 30 KT. SEAS TO 9 FT.

.LOW 47N166W 1021 MB MOVING E 15 KT. WITHIN 240 NM S QUADRANT  
WINDS LESS THAN 25 KT. SEAS LESS THAN 8 FT.

.24 HOUR FORECAST LOW 47N157W 1022 MB. WITHIN 240 NM S QUADRANT  
WINDS LESS THAN 25 KT. SEAS LESS THAN 8 FT.

.48 HOUR FORECAST LOW 46N145W 1020 MB. WITHIN 240 NM S AND 300 NM

SW QUADRANTS WINDS TO 25 KT. SEAS LESS THAN 8 FT.  
 .LOW W OF AREA NEAR 55N165E 992 MB MOVING SE 10 KT. WITHIN 480 NM  
 S AND SW QUADRANTS WINDS 20 TO 30 KT. SEAS TO 11 FT.  
 .24 HOUR FORECAST LOW 51N168E 1001 MB. WITHIN 300 NM S  
 SEMICIRCLE...AND WITHIN 240 NM NW QUADRANT WINDS 20 TO 30 KT.  
 SEAS TO 9 FT.  
 .48 HOUR FORECAST LOW 50N172E 1005 MB. WITHIN 300 NM E OF A LINE  
 FROM 55N178E TO 48N179E TO 42N173E WINDS 20 TO 30 KT. SEAS TO 8  
 FT.  
 .DENSE FOG. VSBY OCCASIONALLY LESS THAN 1 NM N OF A LINE FROM  
 51N178E TO 55N170E...AND FROM 42N TO 48N BETWEEN 176W AND 160W.  
 .24 HOUR FORECAST DENSE FOG FROM 43N TO 52N BETWEEN 167E AND  
 179E...AND FROM 43N TO 49N BETWEEN 168W AND 152W.  
 .48 HOUR FORECAST DENSE FOG FROM 43N TO 55N BETWEEN 173E AND  
 176W.  
 .HIGH 39N154W 1032 MB MOVING SE 05 KT.  
 .24 HOUR FORECAST HIGH 38N151W 1031 MB.  
 .48 HOUR FORECAST HIGH 36N151W 1029 MB.  
 .HIGH 52N160W 1024 MB MOVING W 05 KT.  
 .24 HOUR FORECAST HIGH 52N163W 1026 MB.  
 .48 HOUR FORECAST HIGH 49N165W 1030 MB.  
 .HIGH 57N165W 1024 MB NEARLY STATIONARY.  
 .24 HOUR FORECAST HIGH DISSIPATED.  
 .HIGH 43N174E 1025 MB MOVING NE 20 KT.  
 .24 HOUR FORECAST HIGH 46N173W 1025 MB.  
 .48 HOUR FORECAST HIGH DISSIPATED.  
 .48 HOUR FORECAST NEW HIGH 43N167W 1029 MB.  
 .FORECASTER BYRD. OCEAN PREDICTION CENTER.  
 NWS NATIONAL HURRICANE CENTER MIAMI FL  
 E PACIFIC FROM THE EQUATOR TO 30N E OF 140W AND 03.4S TO THE  
 EQUATOR E OF 120W  
 SYNOPSIS VALID 1200 UTC THU JUL 15.  
 24 HOUR FORECAST VALID 1200 UTC FRI JUL 16.  
 48 HOUR FORECAST VALID 1200 UTC SAT JUL 17.  
 .WARNINGS.  
 ...HURRICANE WARNING...  
 .HURRICANE FELICIA NEAR 15.2N 118.6W 984 MB AT 1500 UTC JUL 15  
 MOVING W OR 270 DEG AT 10 KT. MAXIMUM SUSTAINED WINDS 80 KT GUSTS  
 100 KT. TROPICAL STORM FORCE WINDS WITHIN 60 NM N  
 SEMICIRCLE...50 NM SE QUADRANT AND 30 NM SW QUADRANT. SEAS 12 FT  
 OR GREATER WITHIN 120 NM NE QUADRANT...45 NM SE QUADRANT...30 NM  
 SW QUADRANT...AND 90 NM NW QUADRANT WITH SEAS TO 23 FT.  
 ELSEWHERE....WITHIN 15N117W TO 15N119W TO 15N120W TO 17N119W TO  
 16N116W TO 15N117W WINDS 20 TO 33 KT. SEAS 9 TO 11 FT. REMAINDER  
 OF AREA... WITHIN 15N116W TO 14N120W TO 16N120W TO 18N119W TO  
 18N117W TO 15N116W WINDS 20 KT OR LESS. SEAS 8 TO 10 FT IN MIXED  
 SWELL.  
 .24 HOUR FORECAST HURRICANE FELICIA NEAR 15.1N 121.5W. MAXIMUM  
 SUSTAINED WINDS 95 KT GUSTS 115 KT. TROPICAL STORM FORCE WINDS  
 WITHIN 60 NM N SEMICIRCLE...50 NM SE QUADRANT AND 40 NM SW  
 QUADRANT. SEAS 12 FT OR GREATER WITHIN 150 NM NE QUADRANT...90 NM  
 S SEMICIRCLE...AND 120 NM NW QUADRANT WITH SEAS TO 25 FT.

ELSEWHERE...WITHIN 14N119W TO 12N122W TO 16N125W TO 19N123W TO 18N119W TO 14N119W WINDS 20 TO 33 KT. SEAS 8 TO 11 FT.

.48 HOUR FORECAST HURRICANE FELICIA NEAR 14.6N 124.7W. MAXIMUM SUSTAINED WINDS 85 KT GUSTS 105 KT. TROPICAL STORM FORCE WINDS WITHIN 60 NM N SEMICIRCLE...50 NM SE QUADRANT AND 40 NM SW QUADRANT. SEAS 12 FT OR GREATER WITHIN 150 NM N SEMICIRCLE AND 90 NM S SEMICIRCLE WITH SEAS TO 27 FT. ELSEWHERE...WITHIN 14N124W TO 14N125W TO 15N126W TO 16N126W TO 16N123W TO 14N124W WINDS 20 TO 33 KT. SEAS 9 TO 11 FT. REMAINDER OF AREA...WITHIN 12N123W TO 12N127W TO 15N129W TO 18N128W TO 17N122W TO 12N123W WINDS 20 KT OR LESS. SEAS 8 TO 10 FT IN MIXED SWELL.

.72 HOUR FORECAST HURRICANE FELICIA NEAR 14.4N 128.2W. MAXIMUM SUSTAINED WINDS 80 KT GUSTS 100 KT.

EXTENDED OUTLOOK...USE FOR GUIDANCE ONLY...ERRORS MAY BE LARGE.

.96 HOUR FORECAST HURRICANE FELICIA NEAR 14.5N 132.1W. MAXIMUM SUSTAINED WINDS 70 KT GUSTS 85 KT.

.120 HOUR FORECAST HURRICANE FELICIA NEAR 14.5N 136.0W. MAXIMUM SUSTAINED WINDS 65 KT GUSTS 80 KT.

FORECAST WINDS IN AND NEAR ACTIVE TROPICAL CYCLONES SHOULD BE USED WITH CAUTION DUE TO UNCERTAINTY IN FORECAST TRACK...SIZE AND INTENSITY.

.SYNOPSIS AND FORECAST.

.WITHIN 15N96W TO 16N95W TO 15N95W TO 15N96W...INCLUDING THE GULF OF TEHUANTEPEC...N TO NE WINDS 20 TO 25 KT. SEAS 8 TO 10 FT. ELSEWHERE...WITHIN 12N95W TO 13N97W TO 14N98W TO 16N95W TO 15N94W TO 12N95W WINDS 20 KT OR LESS. SEAS 8 TO 10 FT IN MIXED SWELL.

.24 HOUR FORECAST NEW LOW PRESSURE NEAR 12N103W 1010 MB. WITHIN 09N99W TO 09N100W TO 11N100W TO 12N100W TO 12N99W TO 09N99W WINDS 20 KT OR LESS. SEAS 8 TO 10 FT IN S TO SW SWELL.

.48 HOUR FORECAST LOW PRESSURE...POSSIBLE TROPICAL CYCLONE...NEAR 14N110W 1008 MB. WITHIN 15N107W TO 16N107W TO 17N110W TO 18N109W TO 17N106W TO 15N107W SE WINDS 20 TO 25 KT. SEAS 8 TO 10 FT.

ELSEWHERE...WITHIN 14N103W TO 13N104W TO 15N108W TO 18N111W TO 18N106W TO 14N103W WINDS 20 KT OR LESS. SEAS 8 TO 9 FT IN S SWELL.

.WITHIN 03.4S83W TO 03.4S86W TO 01S84W TO 02N84W TO 02N83W TO 03.4S83W WINDS 20 KT OR LESS. SEAS 8 TO 10 FT IN S TO SW SWELL.

.24 HOUR FORECAST WITHIN 03S82.5W TO 03.4S83W TO 03.4S84W TO 03S84W TO 02.5S83W TO 03S82.5W WINDS 20 KT OR LESS. SEAS 8 TO 9 FT IN S TO SW SWELL.

.33 HOUR FORECAST CONDITIONS IMPROVE.

.WITHIN 07N93W TO 03N95W TO 09N94W TO 11N88W TO 09N89W TO 07N93W...INCLUDING THE GULF OF PAPAGAYO...WINDS 20 KT OR LESS. SEAS 8 TO 9 FT IN S TO SW SWELL.

.24 HOUR FORECAST CONDITIONS IMPROVE.

.WITHIN 29.5N126W TO 29N127W TO 29.5N127.5W TO 30N127.5W TO 30N126W TO 29.5N126W WINDS 20 KT OR LESS. SEAS 8 TO 10 FT IN SE TO S SWELL.

.15 HOUR FORECAST CONDITIONS IMPROVE.

.24 HOUR FORECAST WITHIN 00.5N135W TO 00N136W TO 01N136W TO 01N135.5W TO 01N135W TO 00.5N135W WINDS 20 KT OR LESS. SEAS 8 TO

10 FT IN N TO NE SWELL.  
.39 HOUR FORECAST CONDITIONS IMPROVE.  
.REMAINDER OF AREA WINDS 20 KT OR LESS. SEAS LESS THAN 8 FT.  
CONVECTION VALID AT 1500 UTC THU JUL 15...  
.HURRICANE FELICIA...NUMEROUS MODERATE TO ISOLATED STRONG  
WITHIN 120 NM ALL QUADRANTS.  
.INTERTROPICAL CONVERGENCE ZONE/MONSOON TROUGH...  
MONSOON TROUGH AXIS FROM 09N78W TO 09N90W TO 13N111W, AND FROM  
13N121W TO 10N140W. SCATTERED MODERATE FROM 07N TO 10N BETWEEN  
90W AND 102W...FROM 08N TO 10N BETWEEN 112W AND 115W...AND FROM  
FROM 11N TO 13N BETWEEN 132W AND 140W.  
.FORECASTER KONARIK. NATIONAL HURRICANE CENTER.//  
BT  
#0001  
NNNN



OTTUZYUW RHSSXYZ0001 1961619-UUUU--RHSSSUU.  
 ZNR UUUUU  
 O 151619Z JUL 21 MID600050806837U  
 FM FLEWEACEN NORFOLK VA  
 TO COGARD WXCKT TISCOM ALEXANDRIA VA  
 INFO FLEWEACEN NORFOLK VA  
 BT  
 UNCLAS  
 MSGID/GENADMIN/FLEWEACEN NORFOLK VA//  
 SUBJ/WEAK51 PAAQ 151617//  
 POC/COMMAND DUTY OFFICER/-/FLEWEACEN NORFOLK VA/LOC:NORFOLK VA/  
 [REDACTED]  
 RMKS/WEAK51 PAAQ 151617  
 TSUAK1  
 TEST...Public Tsunami Message Number 1...TEST  
 NWS National Tsunami Warning Center Palmer AK  
 917 AM PDT Thu Jul 15 2021  
 ...THIS\_MESSAGE\_IS\_FOR\_TEST\_PURPOSES\_ONLY...  
 ...THIS IS A TEST TO DETERMINE TRANSMISSION TIMES INVOLVED IN THE  
 DISSEMINATION OF TSUNAMI INFORMATION...  
 RESPONSES ARE REQUIRED FROM  
 -----  
 \* All Coastal Weather Forecast Offices in Alaska, Washington,  
 Oregon and California  
 \* USAF 11th Rescue Coordination Center at Elmendorf AFB  
 \* California, Oregon, Washington and Alaska State Warning Points  
 \* Emergency Management British Columbia  
 \* The Pacific Storm Prediction Centre in British Columbia  
 \* Joint Typhoon Warning Center in Hawaii  
 \* U.S. Coast Guard 11th, 13th, 17th District Offices  
 \* U.S. Coast Guard Kodiak COMMSTA and CAMSPAC Point Reyes, CA  
 \* Canadian Coast Guard MCTS COMOX and/or Victoria  
 \* FAA Regional Operations Center in Seattle  
 \* All Pacific Coast Tsunami-ready Community Warning Points.  
 RESPONSES SHOULD INCLUDE  
 -----  
 \* Time-of-receipt  
 \* Agency name  
 \* Email address  
 \* Phone number  
 Weather Service Offices should respond in accordance with local  
 directives. All others should reply by one of the available  
 methods  
 below.  
 SEND RESPONSE BY  
 -----  
 \* Web - [ntwc.arh.noaa.gov/commtest/index.html](http://ntwc.arh.noaa.gov/commtest/index.html)  
 \* Email address - [ntwc@noaa.gov](mailto:ntwc@noaa.gov)  
 \* AFTN address - PAAQYQYX  
 \* AWIPS - TMA  
 \* Fax - [REDACTED]  
 BT

#0001  
NNNN

## Richards Michael

---

**From:** Wilson, Harold M CIV USN FLEWEACEN NORFOLK VA (USA) <[REDACTED]@navy.mil>  
**Sent:** Monday, July 19, 2021 10:27 AM  
**To:** Richards Michael <[REDACTED]@ntsb.gov>; Ehlers Andrew <[REDACTED]@ntsb.gov>; Engle, Richard H CIV USN FLEWEACEN NORFOLK VA (USA) <[REDACTED]@us.navy.mil>  
**Cc:** Papa, Michael James CDR USN FLEWEACEN NORFOLK VA (USA) <[REDACTED]@navy.mil>; Dixon, Patrick A CIV USN COMNAVMETOCOM (USA) <[REDACTED]@navy.mil>  
**Subject:** RE: NTSB Investigation: Requested Information

The below question means the script processed the bulletin (put it in the correct format) and emailed it to NTCAMS. It doesn't indicate that the email was successfully sent, however the maillog on the system does indicate that it was successfully sent to NTCAMS. The following is an excerpt from the system maillog for that particular bulletin:

1. Apr 13 19:29:02 C27TGSMNNRKF01 postfix/smtpd[201054]: connect from localhost[127.0.0.1]
2. Apr 13 19:29:02 C27TGSMNNRKF01 postfix/smtpd[201054]: BE88B100010B: client=localhost[127.0.0.1]
3. Apr 13 19:29:02 C27TGSMNNRKF01 postfix/cleanup[201057]: BE88B100010B: message-id=<[REDACTED]ldm@C27TGSMNNRKF01>
4. Apr 13 19:29:02 C27TGSMNNRKF01 postfix/smtpd[201054]: disconnect from localhost[127.0.0.1]
5. Apr 13 19:29:02 C27TGSMNNRKF01 postfix/qmgr[2443]: BE88B100010B: from=<[REDACTED]@navy.mil>, size=8547, nrcpt=1 (queue active)
6. Apr 13 19:29:03 C27TGSMNNRKF01 postfix/smtp[201062]: BE88B100010B: to=<[REDACTED]@oix.navy.mil>, relay=NRFK-CLIN127Relay.nadsusea.nads.navy.mil[10.16.20.121]:25, delay=0.6, delays=0.07/0.05/0.01/0.47, dsn=2.6.0, status=sent (250 2.6.0 <[REDACTED]ldm@C27TGSMNNRKF01> [InternalId=3453153711336, Hostname=[REDACTED]] Queued mail for delivery)
7. Apr 13 19:29:03 C27TGSMNNRKF01 postfix/qmgr[2443]: BE88B100010B: removed

I put the line numbers in so I could reference the needed line. If you look at number 6, the status for the email is sent (email address it was sent to is [REDACTED]@oix.navy.mil). Furthermore, all outgoing email for the timeframe you gave had the same status for that day.

v/r

Harold Marshall Wilson  
Meteorologist  
Fleet Weather Center  
9141 Third Avenue  
Norfolk, Virginia  
NIPR EMAIL: [REDACTED]@navy.mil  
SIPR EMAIL: [REDACTED]@navy.smil.mil  
[REDACTED]

"When you have eliminated the impossible, whatever remains,  
however improbable, must be the truth."  
Arthur Conan Doyle

---

**From:** Richards Michael [REDACTED] <[REDACTED]@ntsb.gov>  
**Sent:** Thursday, July 15, 2021 4:04 PM  
**To:** Wilson, Harold M CIV USN FLEWEACEN NORFOLK VA (USA) [REDACTED] <[REDACTED]@navy.mil>; Ehlers Andrew <[REDACTED]@ntsb.gov>; Engle, Richard H CIV USN FLEWEACEN NORFOLK VA (USA) <[REDACTED]@us.navy.mil>; Wilson, Harold M CIV USN FLEWEACEN NORFOLK VA (USA) <[REDACTED]@us.navy.mil>  
**Cc:** Papa, Michael James CDR USN FLEWEACEN NORFOLK VA (USA) [REDACTED] <[REDACTED]@navy.mil>; Richards Michael [REDACTED] <[REDACTED]@ntsb.gov>; Dixon, Patrick A CIV USN COMNAVMETOCOM (USA) [REDACTED] <[REDACTED]@navy.mil>  
**Subject:** [Non-DoD Source] RE: NTSB Investigation: Requested Information

Thank you Marshall. So as an example, to be clear, the following log items tell us that at 1929:02 UTC on 13 April 2021, there was a weather product with the WMO header "WHUS54 KLIX 131927" that had been pulled into this directory and was processed by this script. Correct? Does "processed" indicate it was successfully emailed to NTCAMS LANT, or just that it had been identified and prepared for emailing?

```
Apr 13, 2021 19:29:02
Processing Warnings
Cleaning /usr/local/ldm/var/data/uscg/WHUS54_KLIX_131927.wmo
Processing /usr/local/ldm/var/data/uscg/WHUS54_KLIX_131927.wmo
****completed****
```

Hopefully last question.

Mike

---

**From:** Wilson, Harold M CIV USN FLEWEACEN NORFOLK VA (USA) [REDACTED] <[REDACTED]@navy.mil>  
**Sent:** Thursday, July 15, 2021 1:57 PM  
**To:** Richards Michael <[REDACTED]@ntsb.gov>; Ehlers Andrew [REDACTED] <[REDACTED]@ntsb.gov>; Engle, Richard H CIV USN FLEWEACEN NORFOLK VA (USA) <[REDACTED]@us.navy.mil>; Wilson, Harold M CIV USN FLEWEACEN NORFOLK VA (USA) [REDACTED] <[REDACTED]@us.navy.mil>  
**Cc:** Papa, Michael James CDR USN FLEWEACEN NORFOLK VA (USA) [REDACTED] <[REDACTED]@navy.mil>; Dixon, Patrick A CIV USN COMNAVMETOCOM (USA) [REDACTED] <[REDACTED]@navy.mil>  
**Subject:** RE: NTSB Investigation: Requested Information

Mike, Drew, attached is the log information for April 13<sup>th</sup> between 10:45Z - 23:15Z. As data is received via the NOAAPORT satellite feed it is checked for patterns in the WMO HEADER utilizing REGEX. This is all accomplished by a software program called LDM (Local Data Manager), pretty much like the WFO for the NWS receive data. If data matches a pattern, LDM creates a file for that product and drops it into a directory. In this case it is text but it could be other data such as radar, satellite etc. During that time period, we processed ~117 bulletins. The WMO headers are included in the log if you are looking for a specific one.

As these files are generated by LDM and dropped into a directory, there is a script that checks that directory every two minutes for new files to be processed, the log attached is the output from that script.

As you look at the log, don't get confused by the "Cleaning" statements, that does not mean it is deleting the file, it is just cleaning the data (removing special characters etc.) getting it ready to be emailed out to NTCAMS LANT (Naval Computer and Telecommunications Area Master Station Atlantic) for transmission to the USCG via Naval Message.

v/r

Harold Marshall Wilson  
Meteorologist  
Fleet Weather Center  
9141 Third Avenue  
Norfolk, Virginia  
NIPR EMAIL: [REDACTED]@navy.mil  
SIPR EMAIL: [REDACTED]@navy.smil.mil  
[REDACTED]

"When you have eliminated the impossible, whatever remains,  
however improbable, must be the truth."  
Arthur Conan Doyle

Apr 13, 2021 10:45:01  
Processing Warnings  
/bin/ls: cannot access /usr/local/ldm/var/data/uscg/\*.wmo: No  
such file or directory  
\*\*\*\*completed\*\*\*\*

Apr 13, 2021 10:47:01  
Processing Warnings  
/bin/ls: cannot access /usr/local/ldm/var/data/uscg/\*.wmo: No  
such file or directory  
\*\*\*\*completed\*\*\*\*

Apr 13, 2021 10:49:01  
Processing Warnings  
/bin/ls: cannot access /usr/local/ldm/var/data/uscg/\*.wmo: No  
such file or directory  
\*\*\*\*completed\*\*\*\*

Apr 13, 2021 10:51:01  
Processing Warnings  
/bin/ls: cannot access /usr/local/ldm/var/data/uscg/\*.wmo: No  
such file or directory  
\*\*\*\*completed\*\*\*\*

Apr 13, 2021 10:53:01  
Processing Warnings  
/bin/ls: cannot access /usr/local/ldm/var/data/uscg/\*.wmo: No  
such file or directory  
\*\*\*\*completed\*\*\*\*

Apr 13, 2021 10:55:01  
Processing Warnings  
Cleaning /usr/local/ldm/var/data/uscg/FZAK53\_PAJK\_131053.wmo  
Processing /usr/local/ldm/var/data/uscg/FZAK53\_PAJK\_131053.wmo  
\*\*\*\*completed\*\*\*\*

Apr 13, 2021 10:57:01  
Processing Warnings  
Cleaning /usr/local/ldm/var/data/uscg/FZAK67\_PAJK\_131055.wmo  
Processing /usr/local/ldm/var/data/uscg/FZAK67\_PAJK\_131055.wmo  
\*\*\*\*completed\*\*\*\*

Apr 13, 2021 10:59:01  
Processing Warnings  
/bin/ls: cannot access /usr/local/ldm/var/data/uscg/\*.wmo: No  
such file or directory  
\*\*\*\*completed\*\*\*\*

Apr 13, 2021 11:01:02  
Processing Warnings  
/bin/ls: cannot access /usr/local/ldm/var/data/uscg/\*.wmo: No  
such file or directory

\*\*\*\*completed\*\*\*\*

Apr 13, 2021 11:03:01

Processing Warnings

Cleaning /usr/local/ldm/var/data/uscg/FZNT23\_KNHC\_131102.wmo

Processing /usr/local/ldm/var/data/uscg/FZNT23\_KNHC\_131102.wmo

\*\*\*\*completed\*\*\*\*

Apr 13, 2021 11:05:01

Processing Warnings

Cleaning /usr/local/ldm/var/data/uscg/FZPN24\_KWNM\_131103.wmo

Processing /usr/local/ldm/var/data/uscg/FZPN24\_KWNM\_131103.wmo

Cleaning /usr/local/ldm/var/data/uscg/FZPN23\_KWNM\_131103.wmo

Processing /usr/local/ldm/var/data/uscg/FZPN23\_KWNM\_131103.wmo

Cleaning /usr/local/ldm/var/data/uscg/FZPN22\_KWNM\_131103.wmo

Processing /usr/local/ldm/var/data/uscg/FZPN22\_KWNM\_131103.wmo

\*\*\*\*completed\*\*\*\*

Apr 13, 2021 11:07:02

Processing Warnings

/bin/ls: cannot access /usr/local/ldm/var/data/uscg/\*.wmo: No  
such file or directory

\*\*\*\*completed\*\*\*\*

Apr 13, 2021 11:09:01

Processing Warnings

Cleaning /usr/local/ldm/var/data/uscg/FZAK61\_PAJK\_131108.wmo

Processing /usr/local/ldm/var/data/uscg/FZAK61\_PAJK\_131108.wmo

Cleaning /usr/local/ldm/var/data/uscg/FZAK52\_PAJK\_131108.wmo

Processing /usr/local/ldm/var/data/uscg/FZAK52\_PAJK\_131108.wmo

\*\*\*\*completed\*\*\*\*

Apr 13, 2021 11:11:01

Processing Warnings

/bin/ls: cannot access /usr/local/ldm/var/data/uscg/\*.wmo: No  
such file or directory

\*\*\*\*completed\*\*\*\*

Apr 13, 2021 11:13:01

Processing Warnings

/bin/ls: cannot access /usr/local/ldm/var/data/uscg/\*.wmo: No  
such file or directory

\*\*\*\*completed\*\*\*\*

Apr 13, 2021 11:15:02

Processing Warnings

/bin/ls: cannot access /usr/local/ldm/var/data/uscg/\*.wmo: No  
such file or directory

\*\*\*\*completed\*\*\*\*

Apr 13, 2021 11:17:01

Processing Warnings

```
/bin/ls: cannot access /usr/local/ldm/var/data/uscg/*.wmo: No  
such file or directory  
****completed****
```

```
Apr 13, 2021 11:19:01  
Processing Warnings  
/bin/ls: cannot access /usr/local/ldm/var/data/uscg/*.wmo: No  
such file or directory  
****completed****
```

```
Apr 13, 2021 11:21:01  
Processing Warnings  
/bin/ls: cannot access /usr/local/ldm/var/data/uscg/*.wmo: No  
such file or directory  
****completed****
```

```
Apr 13, 2021 11:23:01  
Processing Warnings  
/bin/ls: cannot access /usr/local/ldm/var/data/uscg/*.wmo: No  
such file or directory  
****completed****
```

```
Apr 13, 2021 11:25:01  
Processing Warnings  
Cleaning /usr/local/ldm/var/data/uscg/FZAK51_PAJK_131123.wmo  
Processing /usr/local/ldm/var/data/uscg/FZAK51_PAJK_131123.wmo  
****completed****
```

```
Apr 13, 2021 11:27:01  
Processing Warnings  
Cleaning /usr/local/ldm/var/data/uscg/FZPN02_KWBC_131125.wmo  
Processing /usr/local/ldm/var/data/uscg/FZPN02_KWBC_131125.wmo  
****completed****
```

```
Apr 13, 2021 11:29:01  
Processing Warnings  
/bin/ls: cannot access /usr/local/ldm/var/data/uscg/*.wmo: No  
such file or directory  
****completed****
```

```
Apr 13, 2021 11:31:01  
Processing Warnings  
Cleaning /usr/local/ldm/var/data/uscg/FZPS40_PHFO_131129.wmo  
Processing /usr/local/ldm/var/data/uscg/FZPS40_PHFO_131129.wmo  
****completed****
```

```
Apr 13, 2021 11:33:01  
Processing Warnings  
/bin/ls: cannot access /usr/local/ldm/var/data/uscg/*.wmo: No  
such file or directory  
****completed****
```



Apr 13, 2021 11:35:02  
Processing Warnings  
/bin/ls: cannot access /usr/local/ldm/var/data/uscg/\*.wmo: No  
such file or directory  
\*\*\*\*completed\*\*\*\*

Apr 13, 2021 11:37:01  
Processing Warnings  
/bin/ls: cannot access /usr/local/ldm/var/data/uscg/\*.wmo: No  
such file or directory  
\*\*\*\*completed\*\*\*\*

Apr 13, 2021 11:39:02  
Processing Warnings  
/bin/ls: cannot access /usr/local/ldm/var/data/uscg/\*.wmo: No  
such file or directory  
\*\*\*\*completed\*\*\*\*

Apr 13, 2021 11:41:01  
Processing Warnings  
/bin/ls: cannot access /usr/local/ldm/var/data/uscg/\*.wmo: No  
such file or directory  
\*\*\*\*completed\*\*\*\*

Apr 13, 2021 11:43:01  
Processing Warnings  
Cleaning /usr/local/ldm/var/data/uscg/FZAK62\_PAFC\_131142.wmo  
Processing /usr/local/ldm/var/data/uscg/FZAK62\_PAFC\_131142.wmo  
\*\*\*\*completed\*\*\*\*

Apr 13, 2021 11:45:01  
Processing Warnings  
/bin/ls: cannot access /usr/local/ldm/var/data/uscg/\*.wmo: No  
such file or directory  
\*\*\*\*completed\*\*\*\*

Apr 13, 2021 11:47:02  
Processing Warnings  
Cleaning /usr/local/ldm/var/data/uscg/FZAK69\_PAFG\_131145.wmo  
Processing /usr/local/ldm/var/data/uscg/FZAK69\_PAFG\_131145.wmo  
\*\*\*\*completed\*\*\*\*

Apr 13, 2021 11:49:01  
Processing Warnings  
/bin/ls: cannot access /usr/local/ldm/var/data/uscg/\*.wmo: No  
such file or directory  
\*\*\*\*completed\*\*\*\*

Apr 13, 2021 11:51:01  
Processing Warnings  
/bin/ls: cannot access /usr/local/ldm/var/data/uscg/\*.wmo: No  
such file or directory

\*\*\*\*completed\*\*\*\*

Apr 13, 2021 11:53:01

Processing Warnings

/bin/ls: cannot access /usr/local/ldm/var/data/uscg/\*.wmo: No  
such file or directory

\*\*\*\*completed\*\*\*\*

Apr 13, 2021 11:55:01

Processing Warnings

Cleaning /usr/local/ldm/var/data/uscg/FZAK52\_PAFC\_131153.wmo

Processing /usr/local/ldm/var/data/uscg/FZAK52\_PAFC\_131153.wmo

Cleaning /usr/local/ldm/var/data/uscg/FZAK64\_PAFC\_131153.wmo

Processing /usr/local/ldm/var/data/uscg/FZAK64\_PAFC\_131153.wmo

\*\*\*\*completed\*\*\*\*

Apr 13, 2021 11:57:01

Processing Warnings

Cleaning /usr/local/ldm/var/data/uscg/FZAK61\_PAFC\_131156.wmo

Processing /usr/local/ldm/var/data/uscg/FZAK61\_PAFC\_131156.wmo

\*\*\*\*completed\*\*\*\*

Apr 13, 2021 11:59:01

Processing Warnings

/bin/ls: cannot access /usr/local/ldm/var/data/uscg/\*.wmo: No  
such file or directory

\*\*\*\*completed\*\*\*\*

Apr 13, 2021 12:01:01

Processing Warnings

/bin/ls: cannot access /usr/local/ldm/var/data/uscg/\*.wmo: No  
such file or directory

\*\*\*\*completed\*\*\*\*

Apr 13, 2021 12:03:01

Processing Warnings

/bin/ls: cannot access /usr/local/ldm/var/data/uscg/\*.wmo: No  
such file or directory

\*\*\*\*completed\*\*\*\*

Apr 13, 2021 12:05:01

Processing Warnings

/bin/ls: cannot access /usr/local/ldm/var/data/uscg/\*.wmo: No  
such file or directory

\*\*\*\*completed\*\*\*\*

Apr 13, 2021 12:07:01

Processing Warnings

/bin/ls: cannot access /usr/local/ldm/var/data/uscg/\*.wmo: No  
such file or directory

\*\*\*\*completed\*\*\*\*

Apr 13, 2021 12:09:01  
Processing Warnings  
/bin/ls: cannot access /usr/local/ldm/var/data/uscg/\*.wmo: No  
such file or directory  
\*\*\*\*completed\*\*\*\*

Apr 13, 2021 12:11:01  
Processing Warnings  
Cleaning /usr/local/ldm/var/data/uscg/FZAK63\_PAFC\_131210.wmo  
Processing /usr/local/ldm/var/data/uscg/FZAK63\_PAFC\_131210.wmo  
Cleaning /usr/local/ldm/var/data/uscg/FZAK51\_PAFC\_131210.wmo  
Processing /usr/local/ldm/var/data/uscg/FZAK51\_PAFC\_131210.wmo  
\*\*\*\*completed\*\*\*\*

Apr 13, 2021 12:13:01  
Processing Warnings  
/bin/ls: cannot access /usr/local/ldm/var/data/uscg/\*.wmo: No  
such file or directory  
\*\*\*\*completed\*\*\*\*

Apr 13, 2021 12:15:01  
Processing Warnings  
/bin/ls: cannot access /usr/local/ldm/var/data/uscg/\*.wmo: No  
such file or directory  
\*\*\*\*completed\*\*\*\*

Apr 13, 2021 12:17:01  
Processing Warnings  
/bin/ls: cannot access /usr/local/ldm/var/data/uscg/\*.wmo: No  
such file or directory  
\*\*\*\*completed\*\*\*\*

Apr 13, 2021 12:19:01  
Processing Warnings  
/bin/ls: cannot access /usr/local/ldm/var/data/uscg/\*.wmo: No  
such file or directory  
\*\*\*\*completed\*\*\*\*

Apr 13, 2021 12:21:01  
Processing Warnings  
/bin/ls: cannot access /usr/local/ldm/var/data/uscg/\*.wmo: No  
such file or directory  
\*\*\*\*completed\*\*\*\*

Apr 13, 2021 12:23:01  
Processing Warnings  
/bin/ls: cannot access /usr/local/ldm/var/data/uscg/\*.wmo: No  
such file or directory  
\*\*\*\*completed\*\*\*\*

Apr 13, 2021 12:25:01  
Processing Warnings

```
/bin/ls: cannot access /usr/local/ldm/var/data/uscg/*.wmo: No  
such file or directory  
****completed****
```

```
Apr 13, 2021 12:27:01  
Processing Warnings  
/bin/ls: cannot access /usr/local/ldm/var/data/uscg/*.wmo: No  
such file or directory  
****completed****
```

```
Apr 13, 2021 12:29:01  
Processing Warnings  
/bin/ls: cannot access /usr/local/ldm/var/data/uscg/*.wmo: No  
such file or directory  
****completed****
```

```
Apr 13, 2021 12:31:01  
Processing Warnings  
/bin/ls: cannot access /usr/local/ldm/var/data/uscg/*.wmo: No  
such file or directory  
****completed****
```

```
Apr 13, 2021 12:33:02  
Processing Warnings  
/bin/ls: cannot access /usr/local/ldm/var/data/uscg/*.wmo: No  
such file or directory  
****completed****
```

```
Apr 13, 2021 12:35:01  
Processing Warnings  
/bin/ls: cannot access /usr/local/ldm/var/data/uscg/*.wmo: No  
such file or directory  
****completed****
```

```
Apr 13, 2021 12:37:01  
Processing Warnings  
/bin/ls: cannot access /usr/local/ldm/var/data/uscg/*.wmo: No  
such file or directory  
****completed****
```

```
Apr 13, 2021 12:39:01  
Processing Warnings  
/bin/ls: cannot access /usr/local/ldm/var/data/uscg/*.wmo: No  
such file or directory  
****completed****
```

```
Apr 13, 2021 12:41:01  
Processing Warnings  
/bin/ls: cannot access /usr/local/ldm/var/data/uscg/*.wmo: No  
such file or directory  
****completed****
```

Apr 13, 2021 12:43:01  
Processing Warnings  
/bin/ls: cannot access /usr/local/ldm/var/data/uscg/\*.wmo: No  
such file or directory  
\*\*\*\*completed\*\*\*\*

Apr 13, 2021 12:45:02  
Processing Warnings  
/bin/ls: cannot access /usr/local/ldm/var/data/uscg/\*.wmo: No  
such file or directory  
\*\*\*\*completed\*\*\*\*

Apr 13, 2021 12:47:01  
Processing Warnings  
/bin/ls: cannot access /usr/local/ldm/var/data/uscg/\*.wmo: No  
such file or directory  
\*\*\*\*completed\*\*\*\*

Apr 13, 2021 12:49:01  
Processing Warnings  
/bin/ls: cannot access /usr/local/ldm/var/data/uscg/\*.wmo: No  
such file or directory  
\*\*\*\*completed\*\*\*\*

Apr 13, 2021 12:51:01  
Processing Warnings  
/bin/ls: cannot access /usr/local/ldm/var/data/uscg/\*.wmo: No  
such file or directory  
\*\*\*\*completed\*\*\*\*

Apr 13, 2021 12:53:01  
Processing Warnings  
/bin/ls: cannot access /usr/local/ldm/var/data/uscg/\*.wmo: No  
such file or directory  
\*\*\*\*completed\*\*\*\*

Apr 13, 2021 12:55:01  
Processing Warnings  
/bin/ls: cannot access /usr/local/ldm/var/data/uscg/\*.wmo: No  
such file or directory  
\*\*\*\*completed\*\*\*\*

Apr 13, 2021 12:57:01  
Processing Warnings  
/bin/ls: cannot access /usr/local/ldm/var/data/uscg/\*.wmo: No  
such file or directory  
\*\*\*\*completed\*\*\*\*

Apr 13, 2021 12:59:02  
Processing Warnings  
/bin/ls: cannot access /usr/local/ldm/var/data/uscg/\*.wmo: No  
such file or directory

\*\*\*\*completed\*\*\*\*

Apr 13, 2021 13:01:01

Processing Warnings

/bin/ls: cannot access /usr/local/ldm/var/data/uscg/\*.wmo: No such file or directory

\*\*\*\*completed\*\*\*\*

Apr 13, 2021 13:03:01

Processing Warnings

/bin/ls: cannot access /usr/local/ldm/var/data/uscg/\*.wmo: No such file or directory

\*\*\*\*completed\*\*\*\*

Apr 13, 2021 13:05:01

Processing Warnings

/bin/ls: cannot access /usr/local/ldm/var/data/uscg/\*.wmo: No such file or directory

\*\*\*\*completed\*\*\*\*

Apr 13, 2021 13:07:01

Processing Warnings

/bin/ls: cannot access /usr/local/ldm/var/data/uscg/\*.wmo: No such file or directory

\*\*\*\*completed\*\*\*\*

Apr 13, 2021 13:09:01

Processing Warnings

/bin/ls: cannot access /usr/local/ldm/var/data/uscg/\*.wmo: No such file or directory

\*\*\*\*completed\*\*\*\*

Apr 13, 2021 13:11:01

Processing Warnings

/bin/ls: cannot access /usr/local/ldm/var/data/uscg/\*.wmo: No such file or directory

\*\*\*\*completed\*\*\*\*

Apr 13, 2021 13:13:01

Processing Warnings

/bin/ls: cannot access /usr/local/ldm/var/data/uscg/\*.wmo: No such file or directory

\*\*\*\*completed\*\*\*\*

Apr 13, 2021 13:15:01

Processing Warnings

/bin/ls: cannot access /usr/local/ldm/var/data/uscg/\*.wmo: No such file or directory

\*\*\*\*completed\*\*\*\*

Apr 13, 2021 13:17:01

Processing Warnings

```
/bin/ls: cannot access /usr/local/ldm/var/data/uscg/*.wmo: No  
such file or directory  
****completed****
```

```
Apr 13, 2021 13:19:01  
Processing Warnings  
/bin/ls: cannot access /usr/local/ldm/var/data/uscg/*.wmo: No  
such file or directory  
****completed****
```

```
Apr 13, 2021 13:21:01  
Processing Warnings  
/bin/ls: cannot access /usr/local/ldm/var/data/uscg/*.wmo: No  
such file or directory  
****completed****
```

```
Apr 13, 2021 13:23:01  
Processing Warnings  
/bin/ls: cannot access /usr/local/ldm/var/data/uscg/*.wmo: No  
such file or directory  
****completed****
```

```
Apr 13, 2021 13:25:01  
Processing Warnings  
/bin/ls: cannot access /usr/local/ldm/var/data/uscg/*.wmo: No  
such file or directory  
****completed****
```

```
Apr 13, 2021 13:27:01  
Processing Warnings  
/bin/ls: cannot access /usr/local/ldm/var/data/uscg/*.wmo: No  
such file or directory  
****completed****
```

```
Apr 13, 2021 13:29:01  
Processing Warnings  
/bin/ls: cannot access /usr/local/ldm/var/data/uscg/*.wmo: No  
such file or directory  
****completed****
```

```
Apr 13, 2021 13:31:01  
Processing Warnings  
/bin/ls: cannot access /usr/local/ldm/var/data/uscg/*.wmo: No  
such file or directory  
****completed****
```

```
Apr 13, 2021 13:33:01  
Processing Warnings  
/bin/ls: cannot access /usr/local/ldm/var/data/uscg/*.wmo: No  
such file or directory  
****completed****
```

Apr 13, 2021 13:35:01  
Processing Warnings  
/bin/ls: cannot access /usr/local/ldm/var/data/uscg/\*.wmo: No  
such file or directory  
\*\*\*\*completed\*\*\*\*

Apr 13, 2021 13:37:01  
Processing Warnings  
/bin/ls: cannot access /usr/local/ldm/var/data/uscg/\*.wmo: No  
such file or directory  
\*\*\*\*completed\*\*\*\*

Apr 13, 2021 13:39:01  
Processing Warnings  
/bin/ls: cannot access /usr/local/ldm/var/data/uscg/\*.wmo: No  
such file or directory  
\*\*\*\*completed\*\*\*\*

Apr 13, 2021 13:41:02  
Processing Warnings  
/bin/ls: cannot access /usr/local/ldm/var/data/uscg/\*.wmo: No  
such file or directory  
\*\*\*\*completed\*\*\*\*

Apr 13, 2021 13:43:01  
Processing Warnings  
/bin/ls: cannot access /usr/local/ldm/var/data/uscg/\*.wmo: No  
such file or directory  
\*\*\*\*completed\*\*\*\*

Apr 13, 2021 13:45:02  
Processing Warnings  
/bin/ls: cannot access /usr/local/ldm/var/data/uscg/\*.wmo: No  
such file or directory  
\*\*\*\*completed\*\*\*\*

Apr 13, 2021 13:47:01  
Processing Warnings  
/bin/ls: cannot access /usr/local/ldm/var/data/uscg/\*.wmo: No  
such file or directory  
\*\*\*\*completed\*\*\*\*

Apr 13, 2021 13:49:01  
Processing Warnings  
/bin/ls: cannot access /usr/local/ldm/var/data/uscg/\*.wmo: No  
such file or directory  
\*\*\*\*completed\*\*\*\*

Apr 13, 2021 13:51:01  
Processing Warnings  
/bin/ls: cannot access /usr/local/ldm/var/data/uscg/\*.wmo: No  
such file or directory



\*\*\*\*completed\*\*\*\*

Apr 13, 2021 13:53:01

Processing Warnings

/bin/ls: cannot access /usr/local/ldm/var/data/uscg/\*.wmo: No  
such file or directory

\*\*\*\*completed\*\*\*\*

Apr 13, 2021 13:55:01

Processing Warnings

/bin/ls: cannot access /usr/local/ldm/var/data/uscg/\*.wmo: No  
such file or directory

\*\*\*\*completed\*\*\*\*

Apr 13, 2021 13:57:01

Processing Warnings

/bin/ls: cannot access /usr/local/ldm/var/data/uscg/\*.wmo: No  
such file or directory

\*\*\*\*completed\*\*\*\*

Apr 13, 2021 13:59:01

Processing Warnings

/bin/ls: cannot access /usr/local/ldm/var/data/uscg/\*.wmo: No  
such file or directory

\*\*\*\*completed\*\*\*\*

Apr 13, 2021 14:01:01

Processing Warnings

/bin/ls: cannot access /usr/local/ldm/var/data/uscg/\*.wmo: No  
such file or directory

\*\*\*\*completed\*\*\*\*

Apr 13, 2021 14:03:01

Processing Warnings

/bin/ls: cannot access /usr/local/ldm/var/data/uscg/\*.wmo: No  
such file or directory

\*\*\*\*completed\*\*\*\*

Apr 13, 2021 14:05:01

Processing Warnings

/bin/ls: cannot access /usr/local/ldm/var/data/uscg/\*.wmo: No  
such file or directory

\*\*\*\*completed\*\*\*\*

Apr 13, 2021 14:07:01

Processing Warnings

/bin/ls: cannot access /usr/local/ldm/var/data/uscg/\*.wmo: No  
such file or directory

\*\*\*\*completed\*\*\*\*

Apr 13, 2021 14:09:01

Processing Warnings

/bin/ls: cannot access /usr/local/ldm/var/data/uscg/\*.wmo: No  
such file or directory  
\*\*\*\*completed\*\*\*\*

Apr 13, 2021 14:11:01  
Processing Warnings  
/bin/ls: cannot access /usr/local/ldm/var/data/uscg/\*.wmo: No  
such file or directory  
\*\*\*\*completed\*\*\*\*

Apr 13, 2021 14:13:01  
Processing Warnings  
/bin/ls: cannot access /usr/local/ldm/var/data/uscg/\*.wmo: No  
such file or directory  
\*\*\*\*completed\*\*\*\*

Apr 13, 2021 14:15:01  
Processing Warnings  
/bin/ls: cannot access /usr/local/ldm/var/data/uscg/\*.wmo: No  
such file or directory  
\*\*\*\*completed\*\*\*\*

Apr 13, 2021 14:17:01  
Processing Warnings  
/bin/ls: cannot access /usr/local/ldm/var/data/uscg/\*.wmo: No  
such file or directory  
\*\*\*\*completed\*\*\*\*

Apr 13, 2021 14:19:01  
Processing Warnings  
/bin/ls: cannot access /usr/local/ldm/var/data/uscg/\*.wmo: No  
such file or directory  
\*\*\*\*completed\*\*\*\*

Apr 13, 2021 14:21:01  
Processing Warnings  
Cleaning /usr/local/ldm/var/data/uscg/FZCA52\_TJSJ\_131420.wmo  
Processing /usr/local/ldm/var/data/uscg/FZCA52\_TJSJ\_131420.wmo  
Cleaning /usr/local/ldm/var/data/uscg/FZNT23\_KNHC\_131420.wmo  
Processing /usr/local/ldm/var/data/uscg/FZNT23\_KNHC\_131420.wmo  
\*\*\*\*completed\*\*\*\*

Apr 13, 2021 14:23:01  
Processing Warnings  
/bin/ls: cannot access /usr/local/ldm/var/data/uscg/\*.wmo: No  
such file or directory  
\*\*\*\*completed\*\*\*\*

Apr 13, 2021 14:25:01  
Processing Warnings  
Cleaning /usr/local/ldm/var/data/uscg/FZNT31\_KNHC\_131424.wmo  
Processing /usr/local/ldm/var/data/uscg/FZNT31\_KNHC\_131424.wmo

\*\*\*\*completed\*\*\*\*

Apr 13, 2021 14:27:01

Processing Warnings

Cleaning /usr/local/ldm/var/data/uscg/FZNT21\_KWBC\_131426.wmo

Processing /usr/local/ldm/var/data/uscg/FZNT21\_KWBC\_131426.wmo

Cleaning /usr/local/ldm/var/data/uscg/FZNT32\_KNHC\_131426.wmo

Processing /usr/local/ldm/var/data/uscg/FZNT32\_KNHC\_131426.wmo

Cleaning /usr/local/ldm/var/data/uscg/FZNT24\_KNHC\_131425.wmo

Processing /usr/local/ldm/var/data/uscg/FZNT24\_KNHC\_131425.wmo

\*\*\*\*completed\*\*\*\*

Apr 13, 2021 14:29:01

Processing Warnings

/bin/ls: cannot access /usr/local/ldm/var/data/uscg/\*.wmo: No  
such file or directory

\*\*\*\*completed\*\*\*\*

Apr 13, 2021 14:31:01

Processing Warnings

Cleaning /usr/local/ldm/var/data/uscg/WHCA42\_TJSJ\_131429.wmo

Processing /usr/local/ldm/var/data/uscg/WHCA42\_TJSJ\_131429.wmo

\*\*\*\*completed\*\*\*\*

Apr 13, 2021 14:33:01

Processing Warnings

Cleaning /usr/local/ldm/var/data/uscg/FZNT22\_KWBC\_131431.wmo

Processing /usr/local/ldm/var/data/uscg/FZNT22\_KWBC\_131431.wmo

\*\*\*\*completed\*\*\*\*

Apr 13, 2021 14:35:01

Processing Warnings

Cleaning /usr/local/ldm/var/data/uscg/FZNT26\_KNHC\_131434.wmo

Processing /usr/local/ldm/var/data/uscg/FZNT26\_KNHC\_131434.wmo

\*\*\*\*completed\*\*\*\*

Apr 13, 2021 14:37:01

Processing Warnings

Cleaning /usr/local/ldm/var/data/uscg/FZNT34\_KWBC\_131436.wmo

Processing /usr/local/ldm/var/data/uscg/FZNT34\_KWBC\_131436.wmo

Cleaning /usr/local/ldm/var/data/uscg/FZNT33\_KWBC\_131436.wmo

Processing /usr/local/ldm/var/data/uscg/FZNT33\_KWBC\_131436.wmo

\*\*\*\*completed\*\*\*\*

Apr 13, 2021 14:39:01

Processing Warnings

Cleaning /usr/local/ldm/var/data/uscg/FZUS71\_KLWX\_131437.wmo

Processing /usr/local/ldm/var/data/uscg/FZUS71\_KLWX\_131437.wmo

\*\*\*\*completed\*\*\*\*

Apr 13, 2021 14:41:01

Processing Warnings

Cleaning /usr/local/ldm/var/data/uscg/FZNT27\_KNHC\_131440.wmo  
Processing /usr/local/ldm/var/data/uscg/FZNT27\_KNHC\_131440.wmo  
Cleaning /usr/local/ldm/var/data/uscg/FZNT25\_KNHC\_131439.wmo  
Processing /usr/local/ldm/var/data/uscg/FZNT25\_KNHC\_131439.wmo  
\*\*\*\*completed\*\*\*\*

Apr 13, 2021 14:43:01  
Processing Warnings  
/bin/ls: cannot access /usr/local/ldm/var/data/uscg/\*.wmo: No  
such file or directory  
\*\*\*\*completed\*\*\*\*

Apr 13, 2021 14:45:01  
Processing Warnings  
Cleaning /usr/local/ldm/var/data/uscg/FZCA52\_TJSJ\_131443.wmo  
Processing /usr/local/ldm/var/data/uscg/FZCA52\_TJSJ\_131443.wmo  
\*\*\*\*completed\*\*\*\*

Apr 13, 2021 14:47:01  
Processing Warnings  
/bin/ls: cannot access /usr/local/ldm/var/data/uscg/\*.wmo: No  
such file or directory  
\*\*\*\*completed\*\*\*\*

Apr 13, 2021 14:49:01  
Processing Warnings  
/bin/ls: cannot access /usr/local/ldm/var/data/uscg/\*.wmo: No  
such file or directory  
\*\*\*\*completed\*\*\*\*

Apr 13, 2021 14:51:01  
Processing Warnings  
/bin/ls: cannot access /usr/local/ldm/var/data/uscg/\*.wmo: No  
such file or directory  
\*\*\*\*completed\*\*\*\*

Apr 13, 2021 14:53:01  
Processing Warnings  
/bin/ls: cannot access /usr/local/ldm/var/data/uscg/\*.wmo: No  
such file or directory  
\*\*\*\*completed\*\*\*\*

Apr 13, 2021 14:55:02  
Processing Warnings  
/bin/ls: cannot access /usr/local/ldm/var/data/uscg/\*.wmo: No  
such file or directory  
\*\*\*\*completed\*\*\*\*

Apr 13, 2021 14:57:01  
Processing Warnings  
/bin/ls: cannot access /usr/local/ldm/var/data/uscg/\*.wmo: No  
such file or directory

\*\*\*\*completed\*\*\*\*

Apr 13, 2021 14:59:01

Processing Warnings

/bin/ls: cannot access /usr/local/ldm/var/data/uscg/\*.wmo: No  
such file or directory

\*\*\*\*completed\*\*\*\*

Apr 13, 2021 15:01:01

Processing Warnings

/bin/ls: cannot access /usr/local/ldm/var/data/uscg/\*.wmo: No  
such file or directory

\*\*\*\*completed\*\*\*\*

Apr 13, 2021 15:03:01

Processing Warnings

Cleaning /usr/local/ldm/var/data/uscg/FZHW61\_PHFO\_131502.wmo

Processing /usr/local/ldm/var/data/uscg/FZHW61\_PHFO\_131502.wmo

Cleaning /usr/local/ldm/var/data/uscg/FZHW60\_PHFO\_131502.wmo

Processing /usr/local/ldm/var/data/uscg/FZHW60\_PHFO\_131502.wmo

\*\*\*\*completed\*\*\*\*

Apr 13, 2021 15:05:01

Processing Warnings

/bin/ls: cannot access /usr/local/ldm/var/data/uscg/\*.wmo: No  
such file or directory

\*\*\*\*completed\*\*\*\*

Apr 13, 2021 15:07:01

Processing Warnings

/bin/ls: cannot access /usr/local/ldm/var/data/uscg/\*.wmo: No  
such file or directory

\*\*\*\*completed\*\*\*\*

Apr 13, 2021 15:09:01

Processing Warnings

Cleaning /usr/local/ldm/var/data/uscg/FZNT24\_KWNM\_131507.wmo

Processing /usr/local/ldm/var/data/uscg/FZNT24\_KWNM\_131507.wmo

Cleaning /usr/local/ldm/var/data/uscg/FZNT23\_KWNM\_131507.wmo

Processing /usr/local/ldm/var/data/uscg/FZNT23\_KWNM\_131507.wmo

\*\*\*\*completed\*\*\*\*

Apr 13, 2021 15:11:01

Processing Warnings

Cleaning /usr/local/ldm/var/data/uscg/FZNT25\_KWNM\_131510.wmo

Processing /usr/local/ldm/var/data/uscg/FZNT25\_KWNM\_131510.wmo

\*\*\*\*completed\*\*\*\*

Apr 13, 2021 15:13:01

Processing Warnings

/bin/ls: cannot access /usr/local/ldm/var/data/uscg/\*.wmo: No  
such file or directory

\*\*\*\*completed\*\*\*\*

Apr 13, 2021 15:15:01

Processing Warnings

/bin/ls: cannot access /usr/local/ldm/var/data/uscg/\*.wmo: No  
such file or directory

\*\*\*\*completed\*\*\*\*

Apr 13, 2021 15:17:01

Processing Warnings

Cleaning /usr/local/ldm/var/data/uscg/WTPQ31\_PGUM\_131516.wmo

Processing /usr/local/ldm/var/data/uscg/WTPQ31\_PGUM\_131516.wmo

Cleaning /usr/local/ldm/var/data/uscg/FZPS40\_PHFO\_131515.wmo

Processing /usr/local/ldm/var/data/uscg/FZPS40\_PHFO\_131515.wmo

\*\*\*\*completed\*\*\*\*

Apr 13, 2021 15:19:01

Processing Warnings

/bin/ls: cannot access /usr/local/ldm/var/data/uscg/\*.wmo: No  
such file or directory

\*\*\*\*completed\*\*\*\*

Apr 13, 2021 15:21:01

Processing Warnings

/bin/ls: cannot access /usr/local/ldm/var/data/uscg/\*.wmo: No  
such file or directory

\*\*\*\*completed\*\*\*\*

Apr 13, 2021 15:23:01

Processing Warnings

/bin/ls: cannot access /usr/local/ldm/var/data/uscg/\*.wmo: No  
such file or directory

\*\*\*\*completed\*\*\*\*

Apr 13, 2021 15:25:02

Processing Warnings

/bin/ls: cannot access /usr/local/ldm/var/data/uscg/\*.wmo: No  
such file or directory

\*\*\*\*completed\*\*\*\*

Apr 13, 2021 15:27:01

Processing Warnings

/bin/ls: cannot access /usr/local/ldm/var/data/uscg/\*.wmo: No  
such file or directory

\*\*\*\*completed\*\*\*\*

Apr 13, 2021 15:29:02

Processing Warnings

/bin/ls: cannot access /usr/local/ldm/var/data/uscg/\*.wmo: No  
such file or directory

\*\*\*\*completed\*\*\*\*

Apr 13, 2021 15:31:01  
Processing Warnings  
/bin/ls: cannot access /usr/local/ldm/var/data/uscg/\*.wmo: No  
such file or directory  
\*\*\*\*completed\*\*\*\*

Apr 13, 2021 15:33:01  
Processing Warnings  
Cleaning /usr/local/ldm/var/data/uscg/FZNT02\_KNHC\_131532.wmo  
Processing /usr/local/ldm/var/data/uscg/FZNT02\_KNHC\_131532.wmo  
Cleaning /usr/local/ldm/var/data/uscg/WHCA42\_TJSJ\_131532.wmo  
Processing /usr/local/ldm/var/data/uscg/WHCA42\_TJSJ\_131532.wmo  
\*\*\*\*completed\*\*\*\*

Apr 13, 2021 15:35:01  
Processing Warnings  
/bin/ls: cannot access /usr/local/ldm/var/data/uscg/\*.wmo: No  
such file or directory  
\*\*\*\*completed\*\*\*\*

Apr 13, 2021 15:37:01  
Processing Warnings  
/bin/ls: cannot access /usr/local/ldm/var/data/uscg/\*.wmo: No  
such file or directory  
\*\*\*\*completed\*\*\*\*

Apr 13, 2021 15:39:01  
Processing Warnings  
/bin/ls: cannot access /usr/local/ldm/var/data/uscg/\*.wmo: No  
such file or directory  
\*\*\*\*completed\*\*\*\*

Apr 13, 2021 15:41:01  
Processing Warnings  
Cleaning /usr/local/ldm/var/data/uscg/FZCA52\_TJSJ\_131540.wmo  
Processing /usr/local/ldm/var/data/uscg/FZCA52\_TJSJ\_131540.wmo  
\*\*\*\*completed\*\*\*\*

Apr 13, 2021 15:43:01  
Processing Warnings  
/bin/ls: cannot access /usr/local/ldm/var/data/uscg/\*.wmo: No  
such file or directory  
\*\*\*\*completed\*\*\*\*

Apr 13, 2021 15:45:01  
Processing Warnings  
/bin/ls: cannot access /usr/local/ldm/var/data/uscg/\*.wmo: No  
such file or directory  
\*\*\*\*completed\*\*\*\*

Apr 13, 2021 15:47:01  
Processing Warnings

```
/bin/ls: cannot access /usr/local/ldm/var/data/uscg/*.wmo: No  
such file or directory  
****completed****
```

```
Apr 13, 2021 15:49:01  
Processing Warnings  
/bin/ls: cannot access /usr/local/ldm/var/data/uscg/*.wmo: No  
such file or directory  
****completed****
```

```
Apr 13, 2021 15:51:01  
Processing Warnings  
/bin/ls: cannot access /usr/local/ldm/var/data/uscg/*.wmo: No  
such file or directory  
****completed****
```

```
Apr 13, 2021 15:53:01  
Processing Warnings  
/bin/ls: cannot access /usr/local/ldm/var/data/uscg/*.wmo: No  
such file or directory  
****completed****
```

```
Apr 13, 2021 15:55:01  
Processing Warnings  
/bin/ls: cannot access /usr/local/ldm/var/data/uscg/*.wmo: No  
such file or directory  
****completed****
```

```
Apr 13, 2021 15:57:01  
Processing Warnings  
/bin/ls: cannot access /usr/local/ldm/var/data/uscg/*.wmo: No  
such file or directory  
****completed****
```

```
Apr 13, 2021 15:59:01  
Processing Warnings  
/bin/ls: cannot access /usr/local/ldm/var/data/uscg/*.wmo: No  
such file or directory  
****completed****
```

```
Apr 13, 2021 16:01:01  
Processing Warnings  
/bin/ls: cannot access /usr/local/ldm/var/data/uscg/*.wmo: No  
such file or directory  
****completed****
```

```
Apr 13, 2021 16:03:01  
Processing Warnings  
Cleaning /usr/local/ldm/var/data/uscg/FZPN36_KWBC_131602.wmo  
Processing /usr/local/ldm/var/data/uscg/FZPN36_KWBC_131602.wmo  
Cleaning /usr/local/ldm/var/data/uscg/FZPN35_KWBC_131602.wmo  
Processing /usr/local/ldm/var/data/uscg/FZPN35_KWBC_131602.wmo
```



Cleaning /usr/local/ldm/var/data/uscg/FZPN26\_KWBC\_131601.wmo  
Processing /usr/local/ldm/var/data/uscg/FZPN26\_KWBC\_131601.wmo  
Cleaning /usr/local/ldm/var/data/uscg/FZPN25\_KWBC\_131601.wmo  
Processing /usr/local/ldm/var/data/uscg/FZPN25\_KWBC\_131601.wmo  
\*\*\*\*completed\*\*\*\*

Apr 13, 2021 16:05:01  
Processing Warnings  
/bin/ls: cannot access /usr/local/ldm/var/data/uscg/\*.wmo: No  
such file or directory  
\*\*\*\*completed\*\*\*\*

Apr 13, 2021 16:07:01  
Processing Warnings  
/bin/ls: cannot access /usr/local/ldm/var/data/uscg/\*.wmo: No  
such file or directory  
\*\*\*\*completed\*\*\*\*

Apr 13, 2021 16:09:01  
Processing Warnings  
/bin/ls: cannot access /usr/local/ldm/var/data/uscg/\*.wmo: No  
such file or directory  
\*\*\*\*completed\*\*\*\*

Apr 13, 2021 16:11:01  
Processing Warnings  
/bin/ls: cannot access /usr/local/ldm/var/data/uscg/\*.wmo: No  
such file or directory  
\*\*\*\*completed\*\*\*\*

Apr 13, 2021 16:13:01  
Processing Warnings  
/bin/ls: cannot access /usr/local/ldm/var/data/uscg/\*.wmo: No  
such file or directory  
\*\*\*\*completed\*\*\*\*

Apr 13, 2021 16:15:01  
Processing Warnings  
Cleaning /usr/local/ldm/var/data/uscg/FZPN24\_KWNM\_131614.wmo  
Processing /usr/local/ldm/var/data/uscg/FZPN24\_KWNM\_131614.wmo  
Cleaning /usr/local/ldm/var/data/uscg/WTPQ31\_PGUM\_131614.wmo  
Processing /usr/local/ldm/var/data/uscg/WTPQ31\_PGUM\_131614.wmo  
Cleaning /usr/local/ldm/var/data/uscg/FZPN23\_KWNM\_131614.wmo  
Processing /usr/local/ldm/var/data/uscg/FZPN23\_KWNM\_131614.wmo  
Cleaning /usr/local/ldm/var/data/uscg/FZPN22\_KWNM\_131613.wmo  
Processing /usr/local/ldm/var/data/uscg/FZPN22\_KWNM\_131613.wmo  
\*\*\*\*completed\*\*\*\*

Apr 13, 2021 16:17:01  
Processing Warnings  
Cleaning /usr/local/ldm/var/data/uscg/FZPN01\_KWBC\_131616.wmo  
Processing /usr/local/ldm/var/data/uscg/FZPN01\_KWBC\_131616.wmo

\*\*\*\*completed\*\*\*\*

Apr 13, 2021 16:19:01

Processing Warnings

Cleaning /usr/local/ldm/var/data/uscg/FZNT01\_KWBC\_131618.wmo

Processing /usr/local/ldm/var/data/uscg/FZNT01\_KWBC\_131618.wmo

\*\*\*\*completed\*\*\*\*

Apr 13, 2021 16:21:01

Processing Warnings

/bin/ls: cannot access /usr/local/ldm/var/data/uscg/\*.wmo: No  
such file or directory

\*\*\*\*completed\*\*\*\*

Apr 13, 2021 16:23:01

Processing Warnings

/bin/ls: cannot access /usr/local/ldm/var/data/uscg/\*.wmo: No  
such file or directory

\*\*\*\*completed\*\*\*\*

Apr 13, 2021 16:25:01

Processing Warnings

/bin/ls: cannot access /usr/local/ldm/var/data/uscg/\*.wmo: No  
such file or directory

\*\*\*\*completed\*\*\*\*

Apr 13, 2021 16:27:01

Processing Warnings

/bin/ls: cannot access /usr/local/ldm/var/data/uscg/\*.wmo: No  
such file or directory

\*\*\*\*completed\*\*\*\*

Apr 13, 2021 16:29:01

Processing Warnings

/bin/ls: cannot access /usr/local/ldm/var/data/uscg/\*.wmo: No  
such file or directory

\*\*\*\*completed\*\*\*\*

Apr 13, 2021 16:31:01

Processing Warnings

/bin/ls: cannot access /usr/local/ldm/var/data/uscg/\*.wmo: No  
such file or directory

\*\*\*\*completed\*\*\*\*

Apr 13, 2021 16:33:01

Processing Warnings

/bin/ls: cannot access /usr/local/ldm/var/data/uscg/\*.wmo: No  
such file or directory

\*\*\*\*completed\*\*\*\*

Apr 13, 2021 16:35:01

Processing Warnings

```
/bin/ls: cannot access /usr/local/ldm/var/data/uscg/*.wmo: No  
such file or directory  
****completed****
```

```
Apr 13, 2021 16:37:01  
Processing Warnings  
/bin/ls: cannot access /usr/local/ldm/var/data/uscg/*.wmo: No  
such file or directory  
****completed****
```

```
Apr 13, 2021 16:39:01  
Processing Warnings  
/bin/ls: cannot access /usr/local/ldm/var/data/uscg/*.wmo: No  
such file or directory  
****completed****
```

```
Apr 13, 2021 16:41:01  
Processing Warnings  
/bin/ls: cannot access /usr/local/ldm/var/data/uscg/*.wmo: No  
such file or directory  
****completed****
```

```
Apr 13, 2021 16:43:01  
Processing Warnings  
/bin/ls: cannot access /usr/local/ldm/var/data/uscg/*.wmo: No  
such file or directory  
****completed****
```

```
Apr 13, 2021 16:45:01  
Processing Warnings  
/bin/ls: cannot access /usr/local/ldm/var/data/uscg/*.wmo: No  
such file or directory  
****completed****
```

```
Apr 13, 2021 16:47:01  
Processing Warnings  
/bin/ls: cannot access /usr/local/ldm/var/data/uscg/*.wmo: No  
such file or directory  
****completed****
```

```
Apr 13, 2021 16:49:01  
Processing Warnings  
/bin/ls: cannot access /usr/local/ldm/var/data/uscg/*.wmo: No  
such file or directory  
****completed****
```

```
Apr 13, 2021 16:51:01  
Processing Warnings  
/bin/ls: cannot access /usr/local/ldm/var/data/uscg/*.wmo: No  
such file or directory  
****completed****
```

Apr 13, 2021 16:53:01  
Processing Warnings  
/bin/ls: cannot access /usr/local/ldm/var/data/uscg/\*.wmo: No  
such file or directory  
\*\*\*\*completed\*\*\*\*

Apr 13, 2021 16:55:01  
Processing Warnings  
/bin/ls: cannot access /usr/local/ldm/var/data/uscg/\*.wmo: No  
such file or directory  
\*\*\*\*completed\*\*\*\*

Apr 13, 2021 16:57:01  
Processing Warnings  
/bin/ls: cannot access /usr/local/ldm/var/data/uscg/\*.wmo: No  
such file or directory  
\*\*\*\*completed\*\*\*\*

Apr 13, 2021 16:59:01  
Processing Warnings  
/bin/ls: cannot access /usr/local/ldm/var/data/uscg/\*.wmo: No  
such file or directory  
\*\*\*\*completed\*\*\*\*

Apr 13, 2021 17:01:01  
Processing Warnings  
/bin/ls: cannot access /usr/local/ldm/var/data/uscg/\*.wmo: No  
such file or directory  
\*\*\*\*completed\*\*\*\*

Apr 13, 2021 17:03:01  
Processing Warnings  
/bin/ls: cannot access /usr/local/ldm/var/data/uscg/\*.wmo: No  
such file or directory  
\*\*\*\*completed\*\*\*\*

Apr 13, 2021 17:05:01  
Processing Warnings  
/bin/ls: cannot access /usr/local/ldm/var/data/uscg/\*.wmo: No  
such file or directory  
\*\*\*\*completed\*\*\*\*

Apr 13, 2021 17:07:01  
Processing Warnings  
/bin/ls: cannot access /usr/local/ldm/var/data/uscg/\*.wmo: No  
such file or directory  
\*\*\*\*completed\*\*\*\*

Apr 13, 2021 17:09:01  
Processing Warnings  
Cleaning /usr/local/ldm/var/data/uscg/WHUS54\_KLIX\_131708.wmo  
Processing /usr/local/ldm/var/data/uscg/WHUS54\_KLIX\_131708.wmo

\*\*\*\*completed\*\*\*\*

Apr 13, 2021 17:11:02

Processing Warnings

/bin/ls: cannot access /usr/local/ldm/var/data/uscg/\*.wmo: No such file or directory

\*\*\*\*completed\*\*\*\*

Apr 13, 2021 17:13:01

Processing Warnings

/bin/ls: cannot access /usr/local/ldm/var/data/uscg/\*.wmo: No such file or directory

\*\*\*\*completed\*\*\*\*

Apr 13, 2021 17:15:01

Processing Warnings

/bin/ls: cannot access /usr/local/ldm/var/data/uscg/\*.wmo: No such file or directory

\*\*\*\*completed\*\*\*\*

Apr 13, 2021 17:17:02

Processing Warnings

/bin/ls: cannot access /usr/local/ldm/var/data/uscg/\*.wmo: No such file or directory

\*\*\*\*completed\*\*\*\*

Apr 13, 2021 17:19:02

Processing Warnings

/bin/ls: cannot access /usr/local/ldm/var/data/uscg/\*.wmo: No such file or directory

\*\*\*\*completed\*\*\*\*

Apr 13, 2021 17:21:01

Processing Warnings

/bin/ls: cannot access /usr/local/ldm/var/data/uscg/\*.wmo: No such file or directory

\*\*\*\*completed\*\*\*\*

Apr 13, 2021 17:23:01

Processing Warnings

/bin/ls: cannot access /usr/local/ldm/var/data/uscg/\*.wmo: No such file or directory

\*\*\*\*completed\*\*\*\*

Apr 13, 2021 17:25:01

Processing Warnings

Cleaning /usr/local/ldm/var/data/uscg/WHUS54\_KLIX\_131723.wmo

Processing /usr/local/ldm/var/data/uscg/WHUS54\_KLIX\_131723.wmo

\*\*\*\*completed\*\*\*\*

Apr 13, 2021 17:27:02

Processing Warnings

Cleaning /usr/local/ldm/var/data/uscg/FZPN02\_KWBC\_131725.wmo  
Processing /usr/local/ldm/var/data/uscg/FZPN02\_KWBC\_131725.wmo  
\*\*\*\*completed\*\*\*\*

Apr 13, 2021 17:29:01  
Processing Warnings  
/bin/ls: cannot access /usr/local/ldm/var/data/uscg/\*.wmo: No  
such file or directory  
\*\*\*\*completed\*\*\*\*

Apr 13, 2021 17:31:01  
Processing Warnings  
/bin/ls: cannot access /usr/local/ldm/var/data/uscg/\*.wmo: No  
such file or directory  
\*\*\*\*completed\*\*\*\*

Apr 13, 2021 17:33:02  
Processing Warnings  
/bin/ls: cannot access /usr/local/ldm/var/data/uscg/\*.wmo: No  
such file or directory  
\*\*\*\*completed\*\*\*\*

Apr 13, 2021 17:35:01  
Processing Warnings  
/bin/ls: cannot access /usr/local/ldm/var/data/uscg/\*.wmo: No  
such file or directory  
\*\*\*\*completed\*\*\*\*

Apr 13, 2021 17:37:01  
Processing Warnings  
/bin/ls: cannot access /usr/local/ldm/var/data/uscg/\*.wmo: No  
such file or directory  
\*\*\*\*completed\*\*\*\*

Apr 13, 2021 17:39:01  
Processing Warnings  
/bin/ls: cannot access /usr/local/ldm/var/data/uscg/\*.wmo: No  
such file or directory  
\*\*\*\*completed\*\*\*\*

Apr 13, 2021 17:41:01  
Processing Warnings  
/bin/ls: cannot access /usr/local/ldm/var/data/uscg/\*.wmo: No  
such file or directory  
\*\*\*\*completed\*\*\*\*

Apr 13, 2021 17:43:01  
Processing Warnings  
/bin/ls: cannot access /usr/local/ldm/var/data/uscg/\*.wmo: No  
such file or directory  
\*\*\*\*completed\*\*\*\*

Apr 13, 2021 17:45:01  
Processing Warnings  
/bin/ls: cannot access /usr/local/ldm/var/data/uscg/\*.wmo: No  
such file or directory  
\*\*\*\*completed\*\*\*\*

Apr 13, 2021 17:47:01  
Processing Warnings  
Cleaning /usr/local/ldm/var/data/uscg/FZMY50\_PGUM\_131745.wmo  
Processing /usr/local/ldm/var/data/uscg/FZMY50\_PGUM\_131745.wmo  
\*\*\*\*completed\*\*\*\*

Apr 13, 2021 17:49:01  
Processing Warnings  
/bin/ls: cannot access /usr/local/ldm/var/data/uscg/\*.wmo: No  
such file or directory  
\*\*\*\*completed\*\*\*\*

Apr 13, 2021 17:51:01  
Processing Warnings  
/bin/ls: cannot access /usr/local/ldm/var/data/uscg/\*.wmo: No  
such file or directory  
\*\*\*\*completed\*\*\*\*

Apr 13, 2021 17:53:01  
Processing Warnings  
/bin/ls: cannot access /usr/local/ldm/var/data/uscg/\*.wmo: No  
such file or directory  
\*\*\*\*completed\*\*\*\*

Apr 13, 2021 17:55:01  
Processing Warnings  
/bin/ls: cannot access /usr/local/ldm/var/data/uscg/\*.wmo: No  
such file or directory  
\*\*\*\*completed\*\*\*\*

Apr 13, 2021 17:57:01  
Processing Warnings  
/bin/ls: cannot access /usr/local/ldm/var/data/uscg/\*.wmo: No  
such file or directory  
\*\*\*\*completed\*\*\*\*

Apr 13, 2021 17:59:01  
Processing Warnings  
/bin/ls: cannot access /usr/local/ldm/var/data/uscg/\*.wmo: No  
such file or directory  
\*\*\*\*completed\*\*\*\*

Apr 13, 2021 18:01:01  
Processing Warnings  
/bin/ls: cannot access /usr/local/ldm/var/data/uscg/\*.wmo: No  
such file or directory

\*\*\*\*completed\*\*\*\*

Apr 13, 2021 18:03:01

Processing Warnings

Cleaning /usr/local/ldm/var/data/uscg/FZUS74\_KBRO\_131801.wmo

Processing /usr/local/ldm/var/data/uscg/FZUS74\_KBRO\_131801.wmo

\*\*\*\*completed\*\*\*\*

Apr 13, 2021 18:05:01

Processing Warnings

/bin/ls: cannot access /usr/local/ldm/var/data/uscg/\*.wmo: No  
such file or directory

\*\*\*\*completed\*\*\*\*

Apr 13, 2021 18:07:01

Processing Warnings

Cleaning /usr/local/ldm/var/data/uscg/FZUS74\_KCRP\_131806.wmo

Processing /usr/local/ldm/var/data/uscg/FZUS74\_KCRP\_131806.wmo

\*\*\*\*completed\*\*\*\*

Apr 13, 2021 18:09:01

Processing Warnings

/bin/ls: cannot access /usr/local/ldm/var/data/uscg/\*.wmo: No  
such file or directory

\*\*\*\*completed\*\*\*\*

Apr 13, 2021 18:11:01

Processing Warnings

/bin/ls: cannot access /usr/local/ldm/var/data/uscg/\*.wmo: No  
such file or directory

\*\*\*\*completed\*\*\*\*

Apr 13, 2021 18:13:01

Processing Warnings

/bin/ls: cannot access /usr/local/ldm/var/data/uscg/\*.wmo: No  
such file or directory

\*\*\*\*completed\*\*\*\*

Apr 13, 2021 18:15:01

Processing Warnings

/bin/ls: cannot access /usr/local/ldm/var/data/uscg/\*.wmo: No  
such file or directory

\*\*\*\*completed\*\*\*\*

Apr 13, 2021 18:17:01

Processing Warnings

/bin/ls: cannot access /usr/local/ldm/var/data/uscg/\*.wmo: No  
such file or directory

\*\*\*\*completed\*\*\*\*

Apr 13, 2021 18:19:01

Processing Warnings



```
/bin/ls: cannot access /usr/local/ldm/var/data/uscg/*.wmo: No  
such file or directory  
****completed****
```

```
Apr 13, 2021 18:21:01  
Processing Warnings  
/bin/ls: cannot access /usr/local/ldm/var/data/uscg/*.wmo: No  
such file or directory  
****completed****
```

```
Apr 13, 2021 18:23:01  
Processing Warnings  
/bin/ls: cannot access /usr/local/ldm/var/data/uscg/*.wmo: No  
such file or directory  
****completed****
```

```
Apr 13, 2021 18:25:01  
Processing Warnings  
/bin/ls: cannot access /usr/local/ldm/var/data/uscg/*.wmo: No  
such file or directory  
****completed****
```

```
Apr 13, 2021 18:27:01  
Processing Warnings  
/bin/ls: cannot access /usr/local/ldm/var/data/uscg/*.wmo: No  
such file or directory  
****completed****
```

```
Apr 13, 2021 18:29:01  
Processing Warnings  
/bin/ls: cannot access /usr/local/ldm/var/data/uscg/*.wmo: No  
such file or directory  
****completed****
```

```
Apr 13, 2021 18:31:01  
Processing Warnings  
Cleaning /usr/local/ldm/var/data/uscg/WHUS54_KLIX_131829.wmo  
Processing /usr/local/ldm/var/data/uscg/WHUS54_KLIX_131829.wmo  
****completed****
```

```
Apr 13, 2021 18:33:01  
Processing Warnings  
/bin/ls: cannot access /usr/local/ldm/var/data/uscg/*.wmo: No  
such file or directory  
****completed****
```

```
Apr 13, 2021 18:35:01  
Processing Warnings  
/bin/ls: cannot access /usr/local/ldm/var/data/uscg/*.wmo: No  
such file or directory  
****completed****
```

Apr 13, 2021 18:37:01  
Processing Warnings  
/bin/ls: cannot access /usr/local/ldm/var/data/uscg/\*.wmo: No  
such file or directory  
\*\*\*\*completed\*\*\*\*

Apr 13, 2021 18:39:01  
Processing Warnings  
/bin/ls: cannot access /usr/local/ldm/var/data/uscg/\*.wmo: No  
such file or directory  
\*\*\*\*completed\*\*\*\*

Apr 13, 2021 18:41:01  
Processing Warnings  
/bin/ls: cannot access /usr/local/ldm/var/data/uscg/\*.wmo: No  
such file or directory  
\*\*\*\*completed\*\*\*\*

Apr 13, 2021 18:43:01  
Processing Warnings  
/bin/ls: cannot access /usr/local/ldm/var/data/uscg/\*.wmo: No  
such file or directory  
\*\*\*\*completed\*\*\*\*

Apr 13, 2021 18:45:01  
Processing Warnings  
/bin/ls: cannot access /usr/local/ldm/var/data/uscg/\*.wmo: No  
such file or directory  
\*\*\*\*completed\*\*\*\*

Apr 13, 2021 18:47:01  
Processing Warnings  
/bin/ls: cannot access /usr/local/ldm/var/data/uscg/\*.wmo: No  
such file or directory  
\*\*\*\*completed\*\*\*\*

Apr 13, 2021 18:49:01  
Processing Warnings  
/bin/ls: cannot access /usr/local/ldm/var/data/uscg/\*.wmo: No  
such file or directory  
\*\*\*\*completed\*\*\*\*

Apr 13, 2021 18:51:01  
Processing Warnings  
/bin/ls: cannot access /usr/local/ldm/var/data/uscg/\*.wmo: No  
such file or directory  
\*\*\*\*completed\*\*\*\*

Apr 13, 2021 18:53:01  
Processing Warnings  
/bin/ls: cannot access /usr/local/ldm/var/data/uscg/\*.wmo: No  
such file or directory

\*\*\*\*completed\*\*\*\*

Apr 13, 2021 18:55:01

Processing Warnings

/bin/ls: cannot access /usr/local/ldm/var/data/uscg/\*.wmo: No such file or directory

\*\*\*\*completed\*\*\*\*

Apr 13, 2021 18:57:02

Processing Warnings

/bin/ls: cannot access /usr/local/ldm/var/data/uscg/\*.wmo: No such file or directory

\*\*\*\*completed\*\*\*\*

Apr 13, 2021 18:59:02

Processing Warnings

/bin/ls: cannot access /usr/local/ldm/var/data/uscg/\*.wmo: No such file or directory

\*\*\*\*completed\*\*\*\*

Apr 13, 2021 19:01:01

Processing Warnings

/bin/ls: cannot access /usr/local/ldm/var/data/uscg/\*.wmo: No such file or directory

\*\*\*\*completed\*\*\*\*

Apr 13, 2021 19:03:01

Processing Warnings

/bin/ls: cannot access /usr/local/ldm/var/data/uscg/\*.wmo: No such file or directory

\*\*\*\*completed\*\*\*\*

Apr 13, 2021 19:05:01

Processing Warnings

/bin/ls: cannot access /usr/local/ldm/var/data/uscg/\*.wmo: No such file or directory

\*\*\*\*completed\*\*\*\*

Apr 13, 2021 19:07:01

Processing Warnings

/bin/ls: cannot access /usr/local/ldm/var/data/uscg/\*.wmo: No such file or directory

\*\*\*\*completed\*\*\*\*

Apr 13, 2021 19:09:02

Processing Warnings

/bin/ls: cannot access /usr/local/ldm/var/data/uscg/\*.wmo: No such file or directory

\*\*\*\*completed\*\*\*\*

Apr 13, 2021 19:11:01

Processing Warnings

```
/bin/ls: cannot access /usr/local/ldm/var/data/uscg/*.wmo: No  
such file or directory  
****completed****
```

```
Apr 13, 2021 19:13:02  
Processing Warnings  
/bin/ls: cannot access /usr/local/ldm/var/data/uscg/*.wmo: No  
such file or directory  
****completed****
```

```
Apr 13, 2021 19:15:01  
Processing Warnings  
Cleaning /usr/local/ldm/var/data/uscg/WTPQ31_PGUM_131914.wmo  
Processing /usr/local/ldm/var/data/uscg/WTPQ31_PGUM_131914.wmo  
****completed****
```

```
Apr 13, 2021 19:17:01  
Processing Warnings  
/bin/ls: cannot access /usr/local/ldm/var/data/uscg/*.wmo: No  
such file or directory  
****completed****
```

```
Apr 13, 2021 19:19:01  
Processing Warnings  
/bin/ls: cannot access /usr/local/ldm/var/data/uscg/*.wmo: No  
such file or directory  
****completed****
```

```
Apr 13, 2021 19:21:01  
Processing Warnings  
/bin/ls: cannot access /usr/local/ldm/var/data/uscg/*.wmo: No  
such file or directory  
****completed****
```

```
Apr 13, 2021 19:23:01  
Processing Warnings  
/bin/ls: cannot access /usr/local/ldm/var/data/uscg/*.wmo: No  
such file or directory  
****completed****
```

```
Apr 13, 2021 19:25:01  
Processing Warnings  
/bin/ls: cannot access /usr/local/ldm/var/data/uscg/*.wmo: No  
such file or directory  
****completed****
```

```
Apr 13, 2021 19:27:01  
Processing Warnings  
/bin/ls: cannot access /usr/local/ldm/var/data/uscg/*.wmo: No  
such file or directory  
****completed****
```

Apr 13, 2021 19:29:02  
Processing Warnings  
Cleaning /usr/local/ldm/var/data/uscg/WHUS54\_KLIX\_131927.wmo  
Processing /usr/local/ldm/var/data/uscg/WHUS54\_KLIX\_131927.wmo  
\*\*\*\*completed\*\*\*\*

Apr 13, 2021 19:31:01  
Processing Warnings  
/bin/ls: cannot access /usr/local/ldm/var/data/uscg/\*.wmo: No  
such file or directory  
\*\*\*\*completed\*\*\*\*

Apr 13, 2021 19:33:01  
Processing Warnings  
/bin/ls: cannot access /usr/local/ldm/var/data/uscg/\*.wmo: No  
such file or directory  
\*\*\*\*completed\*\*\*\*

Apr 13, 2021 19:35:01  
Processing Warnings  
/bin/ls: cannot access /usr/local/ldm/var/data/uscg/\*.wmo: No  
such file or directory  
\*\*\*\*completed\*\*\*\*

Apr 13, 2021 19:37:01  
Processing Warnings  
/bin/ls: cannot access /usr/local/ldm/var/data/uscg/\*.wmo: No  
such file or directory  
\*\*\*\*completed\*\*\*\*

Apr 13, 2021 19:39:01  
Processing Warnings  
/bin/ls: cannot access /usr/local/ldm/var/data/uscg/\*.wmo: No  
such file or directory  
\*\*\*\*completed\*\*\*\*

Apr 13, 2021 19:41:01  
Processing Warnings  
/bin/ls: cannot access /usr/local/ldm/var/data/uscg/\*.wmo: No  
such file or directory  
\*\*\*\*completed\*\*\*\*

Apr 13, 2021 19:43:01  
Processing Warnings  
/bin/ls: cannot access /usr/local/ldm/var/data/uscg/\*.wmo: No  
such file or directory  
\*\*\*\*completed\*\*\*\*

Apr 13, 2021 19:45:01  
Processing Warnings  
/bin/ls: cannot access /usr/local/ldm/var/data/uscg/\*.wmo: No  
such file or directory

\*\*\*\*completed\*\*\*\*

Apr 13, 2021 19:47:01

Processing Warnings

/bin/ls: cannot access /usr/local/ldm/var/data/uscg/\*.wmo: No  
such file or directory

\*\*\*\*completed\*\*\*\*

Apr 13, 2021 19:49:01

Processing Warnings

Cleaning /usr/local/ldm/var/data/uscg/FZCA52\_TJSJ\_131948.wmo

Processing /usr/local/ldm/var/data/uscg/FZCA52\_TJSJ\_131948.wmo

\*\*\*\*completed\*\*\*\*

Apr 13, 2021 19:51:01

Processing Warnings

/bin/ls: cannot access /usr/local/ldm/var/data/uscg/\*.wmo: No  
such file or directory

\*\*\*\*completed\*\*\*\*

Apr 13, 2021 19:53:01

Processing Warnings

/bin/ls: cannot access /usr/local/ldm/var/data/uscg/\*.wmo: No  
such file or directory

\*\*\*\*completed\*\*\*\*

Apr 13, 2021 19:55:01

Processing Warnings

/bin/ls: cannot access /usr/local/ldm/var/data/uscg/\*.wmo: No  
such file or directory

\*\*\*\*completed\*\*\*\*

Apr 13, 2021 19:57:01

Processing Warnings

/bin/ls: cannot access /usr/local/ldm/var/data/uscg/\*.wmo: No  
such file or directory

\*\*\*\*completed\*\*\*\*

Apr 13, 2021 19:59:01

Processing Warnings

Cleaning /usr/local/ldm/var/data/uscg/WHUS54\_KLIX\_131957.wmo

Processing /usr/local/ldm/var/data/uscg/WHUS54\_KLIX\_131957.wmo

\*\*\*\*completed\*\*\*\*

Apr 13, 2021 20:01:01

Processing Warnings

/bin/ls: cannot access /usr/local/ldm/var/data/uscg/\*.wmo: No  
such file or directory

\*\*\*\*completed\*\*\*\*

Apr 13, 2021 20:03:01

Processing Warnings

Cleaning /usr/local/ldm/var/data/uscg/WHCA42\_TJSJ\_132002.wmo  
Processing /usr/local/ldm/var/data/uscg/WHCA42\_TJSJ\_132002.wmo  
Cleaning /usr/local/ldm/var/data/uscg/FZCA52\_TJSJ\_132001.wmo  
Processing /usr/local/ldm/var/data/uscg/FZCA52\_TJSJ\_132001.wmo  
\*\*\*\*completed\*\*\*\*

Apr 13, 2021 20:05:01  
Processing Warnings  
/bin/ls: cannot access /usr/local/ldm/var/data/uscg/\*.wmo: No  
such file or directory  
\*\*\*\*completed\*\*\*\*

Apr 13, 2021 20:07:01  
Processing Warnings  
/bin/ls: cannot access /usr/local/ldm/var/data/uscg/\*.wmo: No  
such file or directory  
\*\*\*\*completed\*\*\*\*

Apr 13, 2021 20:09:02  
Processing Warnings  
/bin/ls: cannot access /usr/local/ldm/var/data/uscg/\*.wmo: No  
such file or directory  
\*\*\*\*completed\*\*\*\*

Apr 13, 2021 20:11:01  
Processing Warnings  
Cleaning /usr/local/ldm/var/data/uscg/FZCA52\_TJSJ\_132009.wmo  
Processing /usr/local/ldm/var/data/uscg/FZCA52\_TJSJ\_132009.wmo  
\*\*\*\*completed\*\*\*\*

Apr 13, 2021 20:13:01  
Processing Warnings  
/bin/ls: cannot access /usr/local/ldm/var/data/uscg/\*.wmo: No  
such file or directory  
\*\*\*\*completed\*\*\*\*

Apr 13, 2021 20:15:01  
Processing Warnings  
/bin/ls: cannot access /usr/local/ldm/var/data/uscg/\*.wmo: No  
such file or directory  
\*\*\*\*completed\*\*\*\*

Apr 13, 2021 20:17:01  
Processing Warnings  
/bin/ls: cannot access /usr/local/ldm/var/data/uscg/\*.wmo: No  
such file or directory  
\*\*\*\*completed\*\*\*\*

Apr 13, 2021 20:19:01  
Processing Warnings  
/bin/ls: cannot access /usr/local/ldm/var/data/uscg/\*.wmo: No  
such file or directory

\*\*\*\*completed\*\*\*\*

Apr 13, 2021 20:21:01

Processing Warnings

/bin/ls: cannot access /usr/local/ldm/var/data/uscg/\*.wmo: No  
such file or directory

\*\*\*\*completed\*\*\*\*

Apr 13, 2021 20:23:01

Processing Warnings

/bin/ls: cannot access /usr/local/ldm/var/data/uscg/\*.wmo: No  
such file or directory

\*\*\*\*completed\*\*\*\*

Apr 13, 2021 20:25:01

Processing Warnings

/bin/ls: cannot access /usr/local/ldm/var/data/uscg/\*.wmo: No  
such file or directory

\*\*\*\*completed\*\*\*\*

Apr 13, 2021 20:27:02

Processing Warnings

/bin/ls: cannot access /usr/local/ldm/var/data/uscg/\*.wmo: No  
such file or directory

\*\*\*\*completed\*\*\*\*

Apr 13, 2021 20:29:01

Processing Warnings

Cleaning /usr/local/ldm/var/data/uscg/FZNT24\_KNHC\_132027.wmo

Processing /usr/local/ldm/var/data/uscg/FZNT24\_KNHC\_132027.wmo

\*\*\*\*completed\*\*\*\*

Apr 13, 2021 20:31:01

Processing Warnings

Cleaning /usr/local/ldm/var/data/uscg/FZNT32\_KNHC\_132029.wmo

Processing /usr/local/ldm/var/data/uscg/FZNT32\_KNHC\_132029.wmo

\*\*\*\*completed\*\*\*\*

Apr 13, 2021 20:33:01

Processing Warnings

Cleaning /usr/local/ldm/var/data/uscg/FZNT23\_KNHC\_132032.wmo

Processing /usr/local/ldm/var/data/uscg/FZNT23\_KNHC\_132032.wmo

\*\*\*\*completed\*\*\*\*

Apr 13, 2021 20:35:02

Processing Warnings

/bin/ls: cannot access /usr/local/ldm/var/data/uscg/\*.wmo: No  
such file or directory

\*\*\*\*completed\*\*\*\*

Apr 13, 2021 20:37:01

Processing Warnings



Cleaning /usr/local/ldm/var/data/uscg/FZNT22\_KWBC\_132035.wmo  
Processing /usr/local/ldm/var/data/uscg/FZNT22\_KWBC\_132035.wmo  
Cleaning /usr/local/ldm/var/data/uscg/FZNT21\_KWBC\_132035.wmo  
Processing /usr/local/ldm/var/data/uscg/FZNT21\_KWBC\_132035.wmo  
Cleaning /usr/local/ldm/var/data/uscg/FZNT31\_KNHC\_132034.wmo  
Processing /usr/local/ldm/var/data/uscg/FZNT31\_KNHC\_132034.wmo  
\*\*\*\*completed\*\*\*\*

Apr 13, 2021 20:39:01

Processing Warnings  
Cleaning /usr/local/ldm/var/data/uscg/FZNT25\_KNHC\_132038.wmo  
Processing /usr/local/ldm/var/data/uscg/FZNT25\_KNHC\_132038.wmo  
Cleaning /usr/local/ldm/var/data/uscg/FZNT34\_KWBC\_132037.wmo  
Processing /usr/local/ldm/var/data/uscg/FZNT34\_KWBC\_132037.wmo  
Cleaning /usr/local/ldm/var/data/uscg/FZNT33\_KWBC\_132037.wmo  
Processing /usr/local/ldm/var/data/uscg/FZNT33\_KWBC\_132037.wmo  
\*\*\*\*completed\*\*\*\*

Apr 13, 2021 20:41:01

Processing Warnings  
/bin/ls: cannot access /usr/local/ldm/var/data/uscg/\*.wmo: No  
such file or directory  
\*\*\*\*completed\*\*\*\*

Apr 13, 2021 20:43:01

Processing Warnings  
Cleaning /usr/local/ldm/var/data/uscg/FZNT26\_KNHC\_132042.wmo  
Processing /usr/local/ldm/var/data/uscg/FZNT26\_KNHC\_132042.wmo  
Cleaning /usr/local/ldm/var/data/uscg/FZNT27\_KNHC\_132040.wmo  
Processing /usr/local/ldm/var/data/uscg/FZNT27\_KNHC\_132040.wmo  
\*\*\*\*completed\*\*\*\*

Apr 13, 2021 20:45:01

Processing Warnings  
/bin/ls: cannot access /usr/local/ldm/var/data/uscg/\*.wmo: No  
such file or directory  
\*\*\*\*completed\*\*\*\*

Apr 13, 2021 20:47:01

Processing Warnings  
/bin/ls: cannot access /usr/local/ldm/var/data/uscg/\*.wmo: No  
such file or directory  
\*\*\*\*completed\*\*\*\*

Apr 13, 2021 20:49:01

Processing Warnings  
/bin/ls: cannot access /usr/local/ldm/var/data/uscg/\*.wmo: No  
such file or directory  
\*\*\*\*completed\*\*\*\*

Apr 13, 2021 20:51:01

Processing Warnings

Cleaning /usr/local/ldm/var/data/uscg/FZNT02\_KNHC\_132050.wmo  
Processing /usr/local/ldm/var/data/uscg/FZNT02\_KNHC\_132050.wmo  
Cleaning /usr/local/ldm/var/data/uscg/FZNT23\_KWNM\_132050.wmo  
Processing /usr/local/ldm/var/data/uscg/FZNT23\_KWNM\_132050.wmo  
\*\*\*\*completed\*\*\*\*

Apr 13, 2021 20:53:02  
Processing Warnings  
Cleaning /usr/local/ldm/var/data/uscg/FZNT24\_KWNM\_132050.wmo  
Processing /usr/local/ldm/var/data/uscg/FZNT24\_KWNM\_132050.wmo  
\*\*\*\*completed\*\*\*\*

Apr 13, 2021 20:55:02  
Processing Warnings  
/bin/ls: cannot access /usr/local/ldm/var/data/uscg/\*.wmo: No  
such file or directory  
\*\*\*\*completed\*\*\*\*

Apr 13, 2021 20:57:02  
Processing Warnings  
/bin/ls: cannot access /usr/local/ldm/var/data/uscg/\*.wmo: No  
such file or directory  
\*\*\*\*completed\*\*\*\*

Apr 13, 2021 20:59:01  
Processing Warnings  
Cleaning /usr/local/ldm/var/data/uscg/WHUS54\_KLIX\_132058.wmo  
Processing /usr/local/ldm/var/data/uscg/WHUS54\_KLIX\_132058.wmo  
Cleaning /usr/local/ldm/var/data/uscg/FZNT25\_KWNM\_132057.wmo  
Processing /usr/local/ldm/var/data/uscg/FZNT25\_KWNM\_132057.wmo  
\*\*\*\*completed\*\*\*\*

Apr 13, 2021 21:01:01  
Processing Warnings  
/bin/ls: cannot access /usr/local/ldm/var/data/uscg/\*.wmo: No  
such file or directory  
\*\*\*\*completed\*\*\*\*

Apr 13, 2021 21:03:01  
Processing Warnings  
/bin/ls: cannot access /usr/local/ldm/var/data/uscg/\*.wmo: No  
such file or directory  
\*\*\*\*completed\*\*\*\*

Apr 13, 2021 21:05:01  
Processing Warnings  
/bin/ls: cannot access /usr/local/ldm/var/data/uscg/\*.wmo: No  
such file or directory  
\*\*\*\*completed\*\*\*\*

Apr 13, 2021 21:07:02  
Processing Warnings

```
/bin/ls: cannot access /usr/local/ldm/var/data/uscg/*.wmo: No  
such file or directory  
****completed****
```

```
Apr 13, 2021 21:09:01  
Processing Warnings  
Cleaning /usr/local/ldm/var/data/uscg/WHCA42_TJSJ_132107.wmo  
Processing /usr/local/ldm/var/data/uscg/WHCA42_TJSJ_132107.wmo  
****completed****
```

```
Apr 13, 2021 21:11:01  
Processing Warnings  
/bin/ls: cannot access /usr/local/ldm/var/data/uscg/*.wmo: No  
such file or directory  
****completed****
```

```
Apr 13, 2021 21:13:01  
Processing Warnings  
/bin/ls: cannot access /usr/local/ldm/var/data/uscg/*.wmo: No  
such file or directory  
****completed****
```

```
Apr 13, 2021 21:15:02  
Processing Warnings  
/bin/ls: cannot access /usr/local/ldm/var/data/uscg/*.wmo: No  
such file or directory  
****completed****
```

```
Apr 13, 2021 21:17:01  
Processing Warnings  
/bin/ls: cannot access /usr/local/ldm/var/data/uscg/*.wmo: No  
such file or directory  
****completed****
```

```
Apr 13, 2021 21:19:01  
Processing Warnings  
/bin/ls: cannot access /usr/local/ldm/var/data/uscg/*.wmo: No  
such file or directory  
****completed****
```

```
Apr 13, 2021 21:21:01  
Processing Warnings  
/bin/ls: cannot access /usr/local/ldm/var/data/uscg/*.wmo: No  
such file or directory  
****completed****
```

```
Apr 13, 2021 21:23:01  
Processing Warnings  
/bin/ls: cannot access /usr/local/ldm/var/data/uscg/*.wmo: No  
such file or directory  
****completed****
```

Apr 13, 2021 21:25:01  
Processing Warnings  
/bin/ls: cannot access /usr/local/ldm/var/data/uscg/\*.wmo: No  
such file or directory  
\*\*\*\*completed\*\*\*\*

Apr 13, 2021 21:27:01  
Processing Warnings  
/bin/ls: cannot access /usr/local/ldm/var/data/uscg/\*.wmo: No  
such file or directory  
\*\*\*\*completed\*\*\*\*

Apr 13, 2021 21:29:01  
Processing Warnings  
/bin/ls: cannot access /usr/local/ldm/var/data/uscg/\*.wmo: No  
such file or directory  
\*\*\*\*completed\*\*\*\*

Apr 13, 2021 21:31:01  
Processing Warnings  
Cleaning /usr/local/ldm/var/data/uscg/WHUS54\_KLIX\_132130.wmo  
Processing /usr/local/ldm/var/data/uscg/WHUS54\_KLIX\_132130.wmo  
Cleaning /usr/local/ldm/var/data/uscg/FZHW61\_PHFO\_132130.wmo  
Processing /usr/local/ldm/var/data/uscg/FZHW61\_PHFO\_132130.wmo  
Cleaning /usr/local/ldm/var/data/uscg/FZHW60\_PHFO\_132130.wmo  
Processing /usr/local/ldm/var/data/uscg/FZHW60\_PHFO\_132130.wmo  
Cleaning /usr/local/ldm/var/data/uscg/FZHW61\_PHFO\_132129.wmo  
Processing /usr/local/ldm/var/data/uscg/FZHW61\_PHFO\_132129.wmo  
Cleaning /usr/local/ldm/var/data/uscg/FZHW60\_PHFO\_132129.wmo  
Processing /usr/local/ldm/var/data/uscg/FZHW60\_PHFO\_132129.wmo  
\*\*\*\*completed\*\*\*\*

Apr 13, 2021 21:33:01  
Processing Warnings  
/bin/ls: cannot access /usr/local/ldm/var/data/uscg/\*.wmo: No  
such file or directory  
\*\*\*\*completed\*\*\*\*

Apr 13, 2021 21:35:01  
Processing Warnings  
Cleaning /usr/local/ldm/var/data/uscg/WHUS54\_KLCH\_132133.wmo  
Processing /usr/local/ldm/var/data/uscg/WHUS54\_KLCH\_132133.wmo  
\*\*\*\*completed\*\*\*\*

Apr 13, 2021 21:37:02  
Processing Warnings  
/bin/ls: cannot access /usr/local/ldm/var/data/uscg/\*.wmo: No  
such file or directory  
\*\*\*\*completed\*\*\*\*

Apr 13, 2021 21:39:01  
Processing Warnings

```
/bin/ls: cannot access /usr/local/ldm/var/data/uscg/*.wmo: No  
such file or directory  
****completed****
```

```
Apr 13, 2021 21:41:01  
Processing Warnings  
/bin/ls: cannot access /usr/local/ldm/var/data/uscg/*.wmo: No  
such file or directory  
****completed****
```

```
Apr 13, 2021 21:43:02  
Processing Warnings  
Cleaning /usr/local/ldm/var/data/uscg/WHUS54_KLIX_132142.wmo  
Processing /usr/local/ldm/var/data/uscg/WHUS54_KLIX_132142.wmo  
****completed****
```

```
Apr 13, 2021 21:45:01  
Processing Warnings  
Cleaning /usr/local/ldm/var/data/uscg/WTPQ31_PGUM_132144.wmo  
Processing /usr/local/ldm/var/data/uscg/WTPQ31_PGUM_132144.wmo  
****completed****
```

```
Apr 13, 2021 21:47:01  
Processing Warnings  
/bin/ls: cannot access /usr/local/ldm/var/data/uscg/*.wmo: No  
such file or directory  
****completed****
```

```
Apr 13, 2021 21:49:01  
Processing Warnings  
/bin/ls: cannot access /usr/local/ldm/var/data/uscg/*.wmo: No  
such file or directory  
****completed****
```

```
Apr 13, 2021 21:51:01  
Processing Warnings  
Cleaning /usr/local/ldm/var/data/uscg/FZCA52_TJSJ_132150.wmo  
Processing /usr/local/ldm/var/data/uscg/FZCA52_TJSJ_132150.wmo  
****completed****
```

```
Apr 13, 2021 21:53:01  
Processing Warnings  
/bin/ls: cannot access /usr/local/ldm/var/data/uscg/*.wmo: No  
such file or directory  
****completed****
```

```
Apr 13, 2021 21:55:01  
Processing Warnings  
/bin/ls: cannot access /usr/local/ldm/var/data/uscg/*.wmo: No  
such file or directory  
****completed****
```

Apr 13, 2021 21:57:01  
Processing Warnings  
Cleaning /usr/local/ldm/var/data/uscg/FZUS74\_KLIX\_132155.wmo  
Processing /usr/local/ldm/var/data/uscg/FZUS74\_KLIX\_132155.wmo  
\*\*\*\*completed\*\*\*\*

Apr 13, 2021 21:59:01  
Processing Warnings  
/bin/ls: cannot access /usr/local/ldm/var/data/uscg/\*.wmo: No  
such file or directory  
\*\*\*\*completed\*\*\*\*

Apr 13, 2021 22:01:01  
Processing Warnings  
Cleaning /usr/local/ldm/var/data/uscg/FZPN25\_KWBC\_132200.wmo  
Processing /usr/local/ldm/var/data/uscg/FZPN25\_KWBC\_132200.wmo  
\*\*\*\*completed\*\*\*\*

Apr 13, 2021 22:03:01  
Processing Warnings  
Cleaning /usr/local/ldm/var/data/uscg/FZPN26\_KWBC\_132202.wmo  
Processing /usr/local/ldm/var/data/uscg/FZPN26\_KWBC\_132202.wmo  
\*\*\*\*completed\*\*\*\*

Apr 13, 2021 22:05:01  
Processing Warnings  
Cleaning /usr/local/ldm/var/data/uscg/FZPN36\_KWBC\_132203.wmo  
Processing /usr/local/ldm/var/data/uscg/FZPN36\_KWBC\_132203.wmo  
Cleaning /usr/local/ldm/var/data/uscg/FZPN35\_KWBC\_132203.wmo  
Processing /usr/local/ldm/var/data/uscg/FZPN35\_KWBC\_132203.wmo  
\*\*\*\*completed\*\*\*\*

Apr 13, 2021 22:07:01  
Processing Warnings  
Cleaning /usr/local/ldm/var/data/uscg/WHUS54\_KLIX\_132205.wmo  
Processing /usr/local/ldm/var/data/uscg/WHUS54\_KLIX\_132205.wmo  
\*\*\*\*completed\*\*\*\*

Apr 13, 2021 22:09:01  
Processing Warnings  
/bin/ls: cannot access /usr/local/ldm/var/data/uscg/\*.wmo: No  
such file or directory  
\*\*\*\*completed\*\*\*\*

Apr 13, 2021 22:11:01  
Processing Warnings  
/bin/ls: cannot access /usr/local/ldm/var/data/uscg/\*.wmo: No  
such file or directory  
\*\*\*\*completed\*\*\*\*

Apr 13, 2021 22:13:01  
Processing Warnings

```
/bin/ls: cannot access /usr/local/ldm/var/data/uscg/*.wmo: No  
such file or directory  
****completed****
```

```
Apr 13, 2021 22:15:01  
Processing Warnings  
/bin/ls: cannot access /usr/local/ldm/var/data/uscg/*.wmo: No  
such file or directory  
****completed****
```

```
Apr 13, 2021 22:17:01  
Processing Warnings  
Cleaning /usr/local/ldm/var/data/uscg/WHUS54_KLCH_132216.wmo  
Processing /usr/local/ldm/var/data/uscg/WHUS54_KLCH_132216.wmo  
****completed****
```

```
Apr 13, 2021 22:19:01  
Processing Warnings  
/bin/ls: cannot access /usr/local/ldm/var/data/uscg/*.wmo: No  
such file or directory  
****completed****
```

```
Apr 13, 2021 22:21:01  
Processing Warnings  
/bin/ls: cannot access /usr/local/ldm/var/data/uscg/*.wmo: No  
such file or directory  
****completed****
```

```
Apr 13, 2021 22:23:02  
Processing Warnings  
Cleaning /usr/local/ldm/var/data/uscg/FZPN23_KWNM_132222.wmo  
Processing /usr/local/ldm/var/data/uscg/FZPN23_KWNM_132222.wmo  
Cleaning /usr/local/ldm/var/data/uscg/FZPN01_KWBC_132222.wmo  
Processing /usr/local/ldm/var/data/uscg/FZPN01_KWBC_132222.wmo  
Cleaning /usr/local/ldm/var/data/uscg/FZPN22_KWNM_132222.wmo  
Processing /usr/local/ldm/var/data/uscg/FZPN22_KWNM_132222.wmo  
****completed****
```

```
Apr 13, 2021 22:25:02  
Processing Warnings  
Cleaning /usr/local/ldm/var/data/uscg/FZNT01_KWBC_132224.wmo  
Processing /usr/local/ldm/var/data/uscg/FZNT01_KWBC_132224.wmo  
Cleaning /usr/local/ldm/var/data/uscg/FZPN24_KWNM_132223.wmo  
Processing /usr/local/ldm/var/data/uscg/FZPN24_KWNM_132223.wmo  
****completed****
```

```
Apr 13, 2021 22:27:01  
Processing Warnings  
/bin/ls: cannot access /usr/local/ldm/var/data/uscg/*.wmo: No  
such file or directory  
****completed****
```

Apr 13, 2021 22:29:01  
Processing Warnings  
/bin/ls: cannot access /usr/local/ldm/var/data/uscg/\*.wmo: No  
such file or directory  
\*\*\*\*completed\*\*\*\*

Apr 13, 2021 22:31:01  
Processing Warnings  
/bin/ls: cannot access /usr/local/ldm/var/data/uscg/\*.wmo: No  
such file or directory  
\*\*\*\*completed\*\*\*\*

Apr 13, 2021 22:33:01  
Processing Warnings  
/bin/ls: cannot access /usr/local/ldm/var/data/uscg/\*.wmo: No  
such file or directory  
\*\*\*\*completed\*\*\*\*

Apr 13, 2021 22:35:01  
Processing Warnings  
Cleaning /usr/local/ldm/var/data/uscg/FZNT01\_KWBC\_132233.wmo  
Processing /usr/local/ldm/var/data/uscg/FZNT01\_KWBC\_132233.wmo  
\*\*\*\*completed\*\*\*\*

Apr 13, 2021 22:37:01  
Processing Warnings  
/bin/ls: cannot access /usr/local/ldm/var/data/uscg/\*.wmo: No  
such file or directory  
\*\*\*\*completed\*\*\*\*

Apr 13, 2021 22:39:01  
Processing Warnings  
/bin/ls: cannot access /usr/local/ldm/var/data/uscg/\*.wmo: No  
such file or directory  
\*\*\*\*completed\*\*\*\*

Apr 13, 2021 22:41:01  
Processing Warnings  
Cleaning /usr/local/ldm/var/data/uscg/WHUS54\_KMOB\_132239.wmo  
Processing /usr/local/ldm/var/data/uscg/WHUS54\_KMOB\_132239.wmo  
\*\*\*\*completed\*\*\*\*

Apr 13, 2021 22:43:01  
Processing Warnings  
/bin/ls: cannot access /usr/local/ldm/var/data/uscg/\*.wmo: No  
such file or directory  
\*\*\*\*completed\*\*\*\*

Apr 13, 2021 22:45:01  
Processing Warnings  
/bin/ls: cannot access /usr/local/ldm/var/data/uscg/\*.wmo: No  
such file or directory



\*\*\*\*completed\*\*\*\*

Apr 13, 2021 22:47:01

Processing Warnings

/bin/ls: cannot access /usr/local/ldm/var/data/uscg/\*.wmo: No  
such file or directory

\*\*\*\*completed\*\*\*\*

Apr 13, 2021 22:49:01

Processing Warnings

Cleaning /usr/local/ldm/var/data/uscg/FZPS40\_PHFO\_132248.wmo

Processing /usr/local/ldm/var/data/uscg/FZPS40\_PHFO\_132248.wmo

\*\*\*\*completed\*\*\*\*

Apr 13, 2021 22:51:02

Processing Warnings

/bin/ls: cannot access /usr/local/ldm/var/data/uscg/\*.wmo: No  
such file or directory

\*\*\*\*completed\*\*\*\*

Apr 13, 2021 22:53:01

Processing Warnings

/bin/ls: cannot access /usr/local/ldm/var/data/uscg/\*.wmo: No  
such file or directory

\*\*\*\*completed\*\*\*\*

Apr 13, 2021 22:55:01

Processing Warnings

/bin/ls: cannot access /usr/local/ldm/var/data/uscg/\*.wmo: No  
such file or directory

\*\*\*\*completed\*\*\*\*

Apr 13, 2021 22:57:01

Processing Warnings

/bin/ls: cannot access /usr/local/ldm/var/data/uscg/\*.wmo: No  
such file or directory

\*\*\*\*completed\*\*\*\*

Apr 13, 2021 22:59:01

Processing Warnings

Cleaning /usr/local/ldm/var/data/uscg/WHUS54\_KLIX\_132258.wmo

Processing /usr/local/ldm/var/data/uscg/WHUS54\_KLIX\_132258.wmo

\*\*\*\*completed\*\*\*\*

Apr 13, 2021 23:01:01

Processing Warnings

Cleaning /usr/local/ldm/var/data/uscg/FZAK52\_PAFG\_132300.wmo

Processing /usr/local/ldm/var/data/uscg/FZAK52\_PAFG\_132300.wmo

Cleaning /usr/local/ldm/var/data/uscg/FZAK62\_PAFG\_132300.wmo

Processing /usr/local/ldm/var/data/uscg/FZAK62\_PAFG\_132300.wmo

Cleaning /usr/local/ldm/var/data/uscg/FZAK61\_PAFG\_132300.wmo

Processing /usr/local/ldm/var/data/uscg/FZAK61\_PAFG\_132300.wmo

Cleaning /usr/local/ldm/var/data/uscg/FZAK51\_PAFG\_132300.wmo  
Processing /usr/local/ldm/var/data/uscg/FZAK51\_PAFG\_132300.wmo  
\*\*\*\*completed\*\*\*\*

Apr 13, 2021 23:03:01  
Processing Warnings  
Cleaning /usr/local/ldm/var/data/uscg/WHUS54\_KLIX\_132301.wmo  
Processing /usr/local/ldm/var/data/uscg/WHUS54\_KLIX\_132301.wmo  
\*\*\*\*completed\*\*\*\*

Apr 13, 2021 23:05:01  
Processing Warnings  
/bin/ls: cannot access /usr/local/ldm/var/data/uscg/\*.wmo: No  
such file or directory  
\*\*\*\*completed\*\*\*\*

Apr 13, 2021 23:07:01  
Processing Warnings  
/bin/ls: cannot access /usr/local/ldm/var/data/uscg/\*.wmo: No  
such file or directory  
\*\*\*\*completed\*\*\*\*

Apr 13, 2021 23:09:02  
Processing Warnings  
Cleaning /usr/local/ldm/var/data/uscg/FZPS40\_PHFO\_132308.wmo  
Processing /usr/local/ldm/var/data/uscg/FZPS40\_PHFO\_132308.wmo  
Cleaning /usr/local/ldm/var/data/uscg/WHUS54\_KLIX\_132307.wmo  
Processing /usr/local/ldm/var/data/uscg/WHUS54\_KLIX\_132307.wmo  
\*\*\*\*completed\*\*\*\*

Apr 13, 2021 23:11:01  
Processing Warnings  
/bin/ls: cannot access /usr/local/ldm/var/data/uscg/\*.wmo: No  
such file or directory  
\*\*\*\*completed\*\*\*\*

Apr 13, 2021 23:13:01  
Processing Warnings  
Cleaning /usr/local/ldm/var/data/uscg/WHUS54\_KLIX\_132312.wmo  
Processing /usr/local/ldm/var/data/uscg/WHUS54\_KLIX\_132312.wmo  
\*\*\*\*completed\*\*\*\*

Apr 13, 2021 23:15:01  
Processing Warnings  
/bin/ls: cannot access /usr/local/ldm/var/data/uscg/\*.wmo: No  
such file or directory  
\*\*\*\*completed\*\*\*\*



## RECORD OF CONVERSATION

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<b>Date:</b>	<b>July 15, 2021</b>
<b>Time:</b>	<b>1100-1125 eastern daylight time</b>
<b>Location:</b>	<b>Telephone</b>
<b>Person Contacted:</b>	<b>Mr. Richard Engle, Meteorologist, US Navy Fleet Weather Center Mr. H. Marshall Wilson, Meteorologist, US Navy Fleet Weather Center</b>
<b>Persons Present:</b>	<b>Mr. Drew Ehlers, National Transportation Safety Board Mr. Mike Richards, National Transportation Safety Board</b>
<b>Subject:</b>	<b>Accident Investigation DCA21MM024</b>

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On July 15, 2021, at 1100 eastern daylight time (EDT), Mr. Drew Ehlers and Mr. Mike Richards of the National Transportation Safety Board had a telephone conversation with Mr. Richard Engle and Mr. Marshall Wilson from the US Navy Fleet Weather Center in Norfolk, Virginia. During the conversation Mr. Engle and Mr. Wilson reported the following:

The US Navy currently provides certain weather products they receive via NOAAPort to the US Coast Guard (USCG). This process was established years ago when the USCG shifted to using the Defense Messaging System and lost their ability to procure weather products from the National Oceanic and Atmospheric Administration. At that time, the USCG provided the Fleet Weather Center with a list of weather products they wished to receive (these products were identified by their unique World Meteorological Organization [WMO] headers) and asked if the Navy could assist with their procurement. The Fleet Weather Center set up an automated “scan” for the requested headers (products) within their NOAAPort stream and provided (and continues to provide) those products to the USCG via the regular Navy messaging system (similar to teletype messages). In this completely automated process, the requested weather products are repackaged from NOAAPort format to the Navy standard message format by the Fleet Weather Center, then the products are sent to the Naval Computer and Telecommunications Area Master Station, Atlantic (NCTAMS LANT) for transmission to the USCG in Alexandria, Virginia. This process that provides between 200 to 300 weather products to the USCG each day. When the process was established, a US Navy Fleet Weather Center watch team was reviewed each weather product received for the USCG, but due to the high volume that overtaxed the watch team, this process was discontinued.

Hardware issues that cause outages or problems with the distribution are not common, but there have been a few outages where the USCG has contacted the US Navy for resolution. There were no known outages in April 2021.

Conversation ended at approximately 1125 EDT.

Mike Richards  
Senior Meteorologist  
Operational Factors Division  
National Transportation Safety Board

# Marine Board of Investigation

## Testimony

1     **CAPT Phillips:** Thank you. We are going to take a short recess for lunch. We will  
2 reconvene at 1410. The time is now 1336. This hearing is now in recess.

3             *The hearing recessed at 1336, 9 August 2021*

4             *The hearing was called to order at 1412, 9 August 2021.*

5     **CAPT Phillips:** The time is now 1412, this hearing is now in session. Good afternoon.

6 We will now hear testimony from Commander Vince Taylor who is from the Coast  
7 Guard Communications Center. Lieutenant Alger will you please administer the oath?

8     **Recorder:** Good afternoon Commander. If you could you could raise your right hand.  
9 A false statement given to an agency of the United States is punishable by a fine and or  
10 imprisonment under 18 U.S. Code 1001. It may also subject you to discipline under the  
11 Uniform Code of Military Justice. Knowing this do you solemnly swear that the  
12 testimony you're about to give will be the truth, the whole truth and nothing but the truth,  
13 so help you God?

14     **WIT:** I do.

15     **Recorder:** Sir you can lower your hand, sir. For the record please state your full name  
16 and spell your last.

17     **WIT:** Commander Vince Taylor, that's T-A-Y-L-O-R.

18     **Recorder:** Thank you, sir. If you could identify your counsel if present to confirm  
19 representation.

20     **WIT:** My agency counsel is Lieutenant Commander James Daugherty.

21     **Recorder:** And either you or your counsel if you could state the full name and spell the  
22 last. Alright, sir, it looks like Mr. Daugherty is not online with us.

23     **WIT:** His last name is spelled, D-A-U-G-H-E-R-T-Y.

1       **Recorder:** Thank you, sir.

2       **CAPT Phillips:** Thank you Lieutenant Alger. Good afternoon, thank you for being here  
3 with us today. I'm going to start off by asking you some questions about your  
4 background and what your position involves. And then we'll go into some specific  
5 questions about the communications part of it. So can you start off by telling me where  
6 you currently work?

7       **WIT:** I'm currently at the Communications Command for the Coast Guard in  
8 Chesapeake, Virginia.

9       **CAPT Phillips:** And how long have you been there?

10      **WIT:** Today is the two year anniversary of my change of command.

11      **CAPT Phillips:** Two years is what you said?

12      **WIT:** Yes, ma'am.

13      **CAPT Phillips:** Okay. Can you tell us a little bit about your position? You're the  
14 Commanding Officer there?

15      **WIT:** Absolutely. I'm the Commanding Officer of the Communications Command, So  
16 I'm the senior leader at this unit. I'm responsible for the operation of the unit's three  
17 mission sets.

18      **CAPT Phillips:** And how long have you been with the Coast Guard?

19      **WIT:** I've been in the Coast Guard 19 years.

20      **CAPT Phillips:** Can you give us a brief history of some of the other things you've done  
21 in the Coast Guard?

22      **WIT:** Prior to this I was the Cyber Security Chief at the Joint Interagency Task Force  
23 South in Key West, Florida. Prior to that I was the Executive Assistant to the Assistant

1 Commandant for Command, Control, Communications, Computers and Information  
2 Technology in Washington, D.C. Other missions support units that I've been at include  
3 Workforce Chief and Information Systems Branch Chief. And IT Project Manager. My  
4 operational units include a student Engineer on a 378 or 378 foot Cutter. And a  
5 Command Duty Officer at the 14<sup>th</sup> Coast Guard District in Honolulu, Hawaii.

6 **CAPT Phillips:** Thank you. Have you worked for other companies besides the Coast  
7 Guard?

8 **WIT:** No, ma'am.

9 **CAPT Phillips:** Alright. What's the highest level of education that you've completed?

10 **WIT:** I have two Master's degrees. One in Electrical Engineering and one in  
11 Information Leadership.

12 **CAPT Phillips:** And do you have any professional licenses or certificates?

13 **WIT:** I do. I'm a certified Information Systems Security Professional. And I have a  
14 Chief Information Security Officer's certificate from the National Defense University.

15 **CAPT Phillips:** Thank you. I would like to ask you a little bit about the  
16 Communications Center itself. Can you tell us a little bit about what the  
17 Communications Center does? I think you started saying that you have three mission.  
18 Can you tell us about those?

19 **WIT:** Absolutely Captain. The Communications Command delivers Communications  
20 capabilities and services to the Coast Guard Operational Commanders, Joint  
21 Interagency partners and the maritime public. We operate out of five geographically  
22 distributed locations. That includes Chesapeake, Virginia; Novato, California; Kodiak,  
23 Alaska; Orlando, Florida; and Washington, D.C. We remotely operate a manned radio –



1 or unmanned radio facilities in Boston, Massachusetts; Charleston, South Carolina;  
2 Miami; Florida; New Orleans, Louisiana; Cambria and Point Reyes, California; Astoria,  
3 Oregon; and Honolulu, Hawaii. So out of these locations we operate three mission sets  
4 which include long range Communications, deployable and contingency  
5 Communications, and Communications assistance services for Coast Guard. For long  
6 rang Communications services that includes high frequency, air to ground, flight  
7 following, global maritime distress and safety system, monitoring and relay as well as  
8 medium and high frequency maritime public safety broadcasts.

9 **CAPT Phillips:** And how many people are assigned to the Communications Center?

10 **WIT:** The Communications Command has 136 personnel across our five operating  
11 locations.

12 **CAPT Phillips:** And do you have a watch team that's always on duty?

13 **WIT:** Yes, ma'am. We have actually two watches that operate 24 hours a day, 7 days  
14 a week. One of those watches is here in Chesapeake, Virginia and one of them is in  
15 Kodiak, Alaska. At all times we have 7 watch personnel on duty.

16 **CAPT Phillips:** And are those watches in Chesapeake, Virginia and Kodiak, Alaska  
17 doing the same thing just in different areas?

18 **WIT:** Correct. There's four separate watch positions at these watch desks.

19 **CAPT Phillips:** Can you give us an overview of what the watch positons are?

20 **WIT:** Absolutely. So the overall supervisor with oversight is the Communications  
21 Watch Officer. Below that at both locations we have a Technical Supervisor which  
22 monitors the distributing Communications infrastructure and manages the marine public  
23 safety broadcast. We also have two watch standers, one in each operations deck

1 conducting air to ground flight following. That's for Coast Guard aircraft command and  
2 control. And we have two watch standers, one at each operations deck doing global  
3 maritime distress and safety system monitoring and relay of high frequency voice  
4 distress and digital select calling alerts.

5 **CAPT Phillips:** What kind of training do you need to become a watch stander in one of  
6 those positions?

7 **WIT:** Absolutely, ma'am. So all of our watch standers have earned the Operation  
8 Specialist rating through formalized Coast Guard training which includes radio  
9 operations and Communications protocol. In addition to that the Communications  
10 Command is unique as the only operators with long range Communications  
11 infrastructure in the Coast Guard, therefore we have a progressive training program with  
12 job qualification requirements to gain the requisite skill sets necessary to operate the  
13 equipment. So these watch standers will got through and qualify first in the distress  
14 monitoring and relay position, and then air to ground flight following. After that they  
15 would successively move up to the qualification as a technical supervisor to do the  
16 monitoring and troubleshooting of the health of this distributing Communications system  
17 and the management of distributing those public safety broadcast. And the final and  
18 highest watch position would be the Communications Watch Officer. And they serve as  
19 the overall supervisor and management of all ongoing operations.

20 **CAPT Phillips:** Thank you. So you talked a little about these messages that get sent  
21 out to mariners and ships. What are the different ways that you can send information to  
22 mariners?

1 **WIT:** So the Communications Command manages distributing unmanned radio  
2 facilities and we do that basically providing, transmitting information to our mariners  
3 beyond 40 nautical miles offshore using medium and high frequency public safety  
4 broadcast. That includes Navigational Telex.

5 **CAPT Phillips:** Navigational Telex, that's the NAVTEX system?

6 **WIT:** Yes, ma'am.

7 **CAPT Phillips:** Can you give us a little overview of what NAVTEX includes, involves?

8 **WIT:** Absolutely. NAVTEX, short for Navigational Telex is part of the global maritime  
9 distress and safety system for coverage areas of 40 to 200 nautical miles offshore. It's  
10 a transmission broadcast over medium frequency at 518 Kilohertz and delivers  
11 navigational and meteorological warning and forecasts as well as urgent marine safety  
12 information. NAVTEX forecast products that are blend existing offshore marine forecast  
13 and coastal marine forecast that are tailored by the National Weather Service to fit the  
14 broadcast ranges at the Coast Guard transmitter sites. These are intended for a range  
15 of 40 to 200 nautical miles offshore. But the transmitters have the capacity to be able to  
16 transmit up to 400 nautical miles offshore.

17 **CAPT Phillips:** Okay so to summarize it's designed for 40 to 200 nautical miles  
18 offshore. But you said it could go up to 400 miles.

19 **WIT:** Yes.

20 **CAPT Phillips:** Could it be received closer than 40 nautical miles as well?

21 **WIT:** Yes, ma'am.

22 **CAPT Phillips:** Okay, thank you. And that's for a geographical area that covers the  
23 entire U.S.?

1     **WIT:** It's based on the geographical locations of those unmanned facilities and each  
2     one of those locations has – is built to have a certain amount of overlap with the other  
3     existing regions to provide coverage along the areas responsible in the United States.

4     **CAPT Phillips:** Are there any areas that don't get covered by that equipment?

5     **WIT:** Not that I'm aware of.

6     **CAPT Phillips:** And you are sending those NAVTEX messages from there in the  
7     COMCEN out to the remote stations which then goes out to the ships, is that correct?

8     **WIT:** Yes, ma'am. So the centralized processing has gone through an automated  
9     information system here in Chesapeake where we receive broadcasts from the National  
10    Weather Service that come to us through record message traffic by the United States  
11    Navy through their Naval Weather Center in Norfolk. Those are processed here,  
12    converted into a queue and at a scheduled time they are distributed out to those remote  
13    sites and put into an analog signal and broadcasted out as a feed that can be received  
14    by ships and converted to text and into either a printer or scrollable screen.

15    **CAPT Phillips:** That's a lot of steps, okay. Just want to make sure I got all the steps.  
16    So the Weather Service sends out their messages to the Navy. And then the Navy  
17    sends them to you?

18    **WIT:** Correct.

19    **CAPT Phillips:** And how does it get from the Navy to the Communications Center?

20    **WIT:** So because the Navy owns and maintains a record messages service that  
21    provides authenticated process information known as C2OIX, Command and Control  
22    Office Information Exchange, they process, format and make sure those messages are

1 correct and then they transmit immediately to the Communications Command and then  
2 it goes immediately to the queue because our system is ready to process them.

3 **CAPT Phillips:** And is that an internet based service?

4 **WIT:** Yes, ma'am. Inside the Department of Defense Information Network.

5 **CAPT Phillips:** And the Coast Guard doesn't get the messages directly from the  
6 Weather Service?

7 **WIT:** The Communications Command does not get them from the National Weather  
8 Service directly.

9 **CAPT Phillips:** And then when you get the message and send it out to the remote  
10 station how is that signal sent?

11 **WIT:** It's sent over a land based Telecommunications pathway. Our circuits currently  
12 are managed by an internet service provider which is Verizon.

13 **CAPT Phillips:** And then from the remote station that's when it gets sent out over the  
14 radio waves to the ships, correct?

15 **WIT:** Correct, ma'am. At the unmanned facilities we have transmitters that are built on  
16 Montel Technology that broadcast out that signal to the ships.

17 **CAPT Phillips:** Okay and you said there's one of those stations in New Orleans?

18 **WIT:** Yes, ma'am. It's in Belle Chase.

19 **CAPT Phillips:** And does the Coast Guard maintain that unmanned station?

20 **WIT:** Yes, ma'am. The Coast Guard Base New Orleans does all the maintenance,  
21 mechanical, electrical, electronic and information technology maintenance for that  
22 facility and the equipment inside of it.

1     **CAPT Phillips:** Okay. And then if a ship is going to receive these messages what do  
2     they need on board to do that?

3     **WIT:** So they will need to have a narrow band medium frequency receiver with the  
4     abilities that is compatible with the GMDSS protocol. They would receive it. And they  
5     would need a printer or scrollable screen to be able to receive the text. It's not an audio  
6     signal they would be able to listen to.

7     **CAPT Phillips:** Thank you. That's a lot of steps. How long would you say it would  
8     take to get from the Weather Service through all those steps and out to the mariner?

9     **WIT:** Well I don't have metrics associated with that timeframe, ma'am, what I can say  
10    the delivery of this is normally timely since the United States Navy fleet also uses these  
11    messages to support their operations and the safety of their vessels. So it's fairly  
12    timely.

13    **CAPT Phillips:** Thank you. And you said the NAVTEX messages that your office  
14    sends out are designed for an area from a 40 to a 200 nautical mile range from shore.  
15    Knowing that's what the intended area is what kind of messages, weather messages do  
16    you send out? Are there different kinds or all they're all same?

17    **WIT:** Absolutely. So these messages tailored by the National Weather Service are a  
18    blend of both coastal as well as offshore. But they come in four basic formats which  
19    would be navigational warnings, meteorological warnings, meteorological forecasts, and  
20    then there's a search and rescue or piracy that goes with it.

21    **CAPT Phillips:** What was the last category you said?

22    **WIT:** Search and rescue or piracy.

1     **CAPT Phillips:** Piracy, thank you. And is that some sort of an agreement that the  
2     Coast Guard has with the Weather Service that these are the types of messages we'll  
3     send out?

4     **WIT:** Absolutely. There's a memorandum of agreement between the Coast Guard and  
5     NOAA, National Oceanic and Atmospheric Administration, the organizations have a  
6     working group called the UNCLOG which is a collaborative working group that sustains  
7     this 100 year long relationship we've had to provide safety to mariners and efficient  
8     commerce.

9     **CAPT Phillips:** Can you tell me about that acronym? You said UNCLOG?

10    **WIT:** Yes, ma'am. So UNCLOG basically stands for United States Coast Guard,  
11    NOAA working group. It's basically just an acronym that stands for the two  
12    organizations working together as a group.

13    **CAPT Phillips:** And are the weather messages you send out are they automated or  
14    does it takes some sort of intervention?

15    **WIT:** So for the NAVTEX system each site is prescribed to have 6 scheduled  
16    broadcasts per day. Each broadcast is of the routine weather forecast, that goes out 4  
17    times a day, and then there's two of the six broadcasts are associated with notices to  
18    mariners in the area. Each of those broadcast last about 4 to 10 minutes.

19    **CAPT Phillips:** So those are scheduled. Does that require a human intervention?

20    **WIT:** No, ma'am.

21    **CAPT Phillips:** Okay. And are there other messages that do require intervention?

22    **WIT:** Yes, ma'am. So special marine warnings from the National Weather Service  
23    require intervention.

1     **CAPT Phillips:** Can you tell me a little bit more about that process?

2     **WIT:** When a special marine warning is released across the system the watch stander  
3     who is the technical supervisor will receive an audible and a visual alert. They'll go in  
4     and review the context of the message for the specific site. They check against the  
5     schedule. They go through and if there's an ongoing scheduled message at the time  
6     they will preempt that message, be able to send out the emergent, the special marine  
7     warning. If there's no message going out at the time they'll immediately prompt the  
8     system to release the message at that time.

9     **CAPT Phillips:** And what do they have to do to release the message?

10    **WIT:** For the special marine warning messages that are of a non-routine message it  
11    says system is verifying the station and hitting submit.

12    **CAPT Phillips:** And then it sends it out?

13    **WIT:** Yes, ma'am. It sends it across the Telecommunications land based network to  
14    that remote, or unmanned facility to send out.

15    **CAPT Phillips:** Thank you. Do you know what times the automated messages are  
16    sent from New Orleans?

17    **WIT:** Yes, ma'am. That's 0100, 0500, 0900, 1300, 1700, and 2100.

18    **CAPT Phillips:** And that's local time or Zulu time?

19    **WIT:** That's in Zulu time, ma'am.

20    **CAPT Phillips:** You described the process for sending out a special marine warning.  
21    Is that process described in a formal procedure somewhere?



1 **WIT:** Yes, ma'am. The process to preempt a scheduled broadcast and initiating a  
2 special marine warning is an established procedure as part of that qualification process  
3 we spoke of earlier, ma'am.

4 **CAPT Phillips:** So it's written down there at the Communications Center?

5 **WIT:** Yes, ma'am. It's inside of the operator instructions.

6 **CAPT Phillips:** And how long are the watch standers on watch typically? What's their  
7 rotation?

8 **WIT:** They stand watch for 12 hours.

9 **CAPT Phillips:** So if they were to step away from their computer for a little while does  
10 somebody fill in for them?

11 **WIT:** Absolutely. So in the event that the technical supervisor had to step away to look  
12 at equipment or do a quality assurance check on one of the broadcast, because the  
13 qualifications are progressive the Communications Watch Officer would go through and  
14 continue to monitor the health of the infrastructure as well as monitoring for those alerts.  
15 Whether they be audible or visual alerts for an emergent message.

16 **CAPT Phillips:** Okay. So the if the special marine warning came in at any point in time  
17 there should be somebody there available to screen it and send it out?

18 **WIT:** Absolutely, ma'am.

19 **CAPT Phillips:** When a special marine warning is getting sent out does it have to –  
20 does the watch stander have to select where it's being sent out from?

21 **WIT:** No, ma'am. So when the message comes in it's got identifiers to tell what kind of  
22 message it is and where it's intended to go to. The watch stander goes through and  
23 verifies the code for that message is correct for the area that it's being sent to.

1     **CAPT Phillips:** And can marine warnings sometimes go to more than one station for  
2     distribution?

3     **WIT:** So it's not unless the special marine warning designates more than one  
4     geographic region. But these would normally be two separate actions because they're  
5     different transmitter sites. The watch stander can't hit one button and send it to two  
6     different locations. They would have two messages, a queue open and they would put  
7     it in to the two separate queues.

8     **CAPT Phillips:** But that would come with the tag on the message that said that?

9     **WIT:** Correct. The messages are normally associated with the predefined regional  
10    areas which are agreed upon between the National Weather Service and the United  
11    States Coast Guard.

12   **CAPT Phillips:** Okay. Does the Communications Center send warnings, marine  
13   warnings for areas that are near the coast within that 40 nautical mile range that you  
14   describe?

15   **WIT:** So as we were saying earlier Captain, yes the information is – will include,  
16   inshore information blended with offshore with the regions with special marine warnings  
17   for NAVTEX are broken up into 8 marine zones for the Gulf Coast.

18   **CAPT Phillips:** So you only cover some of those zones or you cover all of those 8  
19   zones?

20   **WIT:** So a broadcast from our location in Belle Chase will distribute across the entire  
21   area. But the identifier code will tell the mariner which area it's specific to and the  
22   information associated with the weather or event that's going on. So we cover the  
23   entire area.

1     **CAPT Phillips:** So if there was a special marine warning for an area from the coast line  
2     out to 20 nautical miles you would send that out on NAVTEX?

3     **WIT:** If it was sent out to one of those 8 marine zones, absolutely. Yes, ma'am.

4     **CAPT Phillips:** Do you have that listing of 8 zones?

5     **WIT:** Yes, ma'am. Would you like that now?

6     **CAPT Phillips:** Yes, please.

7     **WIT:** First, first special marine warning zone is Tampa, Florida; Tallahassee, Florida;  
8     Mobile, Alabama; New Orleans, Louisiana; Lake Charles, Louisiana;  
9     Houston/Galveston, Texas; Corpus Christi, Texas; and Brownsville, Texas.

10    **CAPT Phillips:** Would your warnings ever go out to any inland marine areas like a  
11    large lake or body of water inland?

12    **WIT:** Not if it's not identified with those 8 areas. But the National Weather Service  
13    could tag one of those areas with the broadcast. We wouldn't interpret that, we would  
14    just take the message and broadcast it out based on the defined geographic area.

15    **CAPT Phillips:** So if the Weather Service message comes with a New Orleans tag on  
16    it then it would get sent out by your office?

17    **WIT:** Yes, ma'am.

18    **CAPT Phillips:** Thank you. And do you receive a signal if a warning doesn't go out  
19    successfully?

20    **WIT:** No, ma'am. But the watch stander is alerted because they manage the health  
21    and wellness of the remote infrastructure so they'll receive a notification if the  
22    Communications equipment at the unmanned facility is having issues or if there's a  
23    Telecommunications network connectivity issue.

1     **CAPT Phillips:** So you can hear if the system is not working. Is there any way for you  
2     to confirm if the message did go out?

3     **WIT:** Yes, ma'am. So the watch stander has the requirement during the course of their  
4     watch for each of the designated sites to do quality assurance checks. So they conduct  
5     periodic quality assurance reviews of those broadcast. During that they'll go through  
6     and review the signal strength of the propagation as well as the print acceptability. And  
7     they'll rate those and put them into our radio logs.

8     **CAPT Phillips:** And that's per watch you said?

9     **WIT:** Yes, ma'am.

10    **CAPT Phillips:** Okay. I'm going to shift our focus to one specific day and that's April  
11    13<sup>th</sup>, 2021. And we're going to focus on messages that came through the New Orleans  
12    station on that day. Can you walk us through what message did go out to mariners from  
13    the Communications Center that day? I would say let's start from 1100 Central Time,  
14    so that would be 1600 Zulu and we'll go through approximately 2200 Zulu.

15    **WIT:** So if its possible ma'am, can we start with the incident or the event that happened  
16    at or around 1507 Zulu? To give context to the circumstance.

17    **CAPT Phillips:** You want to start with the message at 1500 Zulu?

18    **WIT:** No, ma'am. You asked me to get started at 1600 and the reason why I would like  
19    to talk about 1500 is that on or around 1500 Zulu our watch stander observed an issue  
20    with the connectivity between our Chesapeake and New Orleans unmanned facility. So  
21    in an effort to be able to test test that functionality they went through and they manually  
22    initiated a broadcast based on the standard meteorological forecast that came out from  
23    the National Weather Service at 1441 Zulu. The system log states that the broadcast

1 was sent by the watch stander but could not be confirmed it was initiated. So they went  
2 through and immediately began to initiate technical assistance with Base, Coast Guard  
3 Base New Orleans as well as Verizon. Because there was an issue with connectivity  
4 between Chesapeake and that site. Therefore, the scheduled broadcast at 1700 Zulu  
5 did not occur and then the 2100 Zulu also did not occur. And at 2123 Zulu the system  
6 connectivity was restored through the assistance of Coast Guard Base New Orleans  
7 and Verizon. And then the broadcast began to proceed at 0100 Zulu.

8 **CAPT Phillips:** Did they go back and tell you what happened? Why that interruption in  
9 service?

10 **WIT:** No, ma'am. I don't have specified information associated with the maintenance  
11 issue that went on.

12 **CAPT Phillips:** Okay. So there were no scheduled broadcast at 1700 and 2100 Zulu.  
13 Would it be accurate to say that there were also no special marine warnings issued  
14 during that period?

15 **WIT:** Correct, ma'am.

16 **CAPT Phillips:** What was the – prior to that issue what was the message that went out  
17 before that? What time was that at?

18 **WIT:** The last successful message that had gone out on the 13<sup>th</sup> of April, ma'am, was  
19 at 1300 Zulu. It included a meteorological forecast for the entire Gulf of Mexico that was  
20 published by the National Weather Service at 0757 Zulu. It also included a  
21 meteorological warning for a marine weather statement from Brownsville, Texas that  
22 came out by the National Weather Service at 0823 Zulu. There was also a  
23 meteorological warning, a marine weather statement from Corpus Christi, Texas that

1 was published by the National Weather Service at 0739 Zulu. It also included two  
2 navigational warnings that were published, one was published that day on the 13<sup>th</sup> at  
3 1300 Zulu and one that was previously published on the 8<sup>th</sup> of April at 1221 Zulu. So it  
4 included multiple different messages that were queued up and in secession.

5 **CAPT Phillips:** Okay. So all those went out at 1300 Zulu? And that was a scheduled  
6 broadcast?

7 **WIT:** Yes, ma'am.

8 **CAPT Phillips:** Okay. And you said connectivity was restored at 2123 Zulu. What was  
9 the next message that was sent out after that time?

10 **WIT:** So the 0100 Zulu message went out successfully. I would have to pull up the log  
11 to speak to that. Yes, ma'am. That included 9 additional messages to mariners.

12 **CAPT Phillips:** Okay. But there was nothing between that 2123 and that 0100  
13 timeframe?

14 **WIT:** Yes, ma'am. Unfortunately not.

15 **CAPT Phillips:** How often do you have those kinds of problems where there's no  
16 connectivity and so messages are not going out?

17 **WIT:** These problems are very rare, ma'am. We have a good support structure with  
18 the Base, Coast Guard Base New Orleans. As well as the Defense service center  
19 which provides the depot level maintenance. We have one of these issues maybe once  
20 a year and it's very limited in the outage timeframe. It just happened to be this day that  
21 it happened.

22 **CAPT Phillips:** Were there any other issues with the New Orleans station that day?

1 **WIT:** Yes, ma'am. So on the 7<sup>th</sup> of April we published through the National Geospatial  
2 Intelligence Agency a broadcast that we were having intermittent degradation of  
3 services at our New Orleans site. That broadcast or that notification to the public was  
4 going on from the 7<sup>th</sup> of April through the, I believe it was the 18<sup>th</sup> of April. Let me check  
5 and confirm that date, ma'am. Yes, ma'am.

6 **CAPT Phillips:** What does it mean degradation of services?

7 **WIT:** So each of our remote sites we have thresholds where the number of transmitters  
8 and receivers, and on – during that period we were down to 4 transmitters and that's  
9 across both our high frequency and the medium frequency transmitters. That means we  
10 were still able to meet the requirements on a regular basis. Except for obviously during  
11 that timeframe we just talked about the outage.

12 **CAPT Phillips:** Okay. And four transmitters versus your normal number of transmitters  
13 does that mean it doesn't reach as far? Or does that mean it's not as strong of a  
14 signal? What does that mean?

15 **WIT:** The Coast Guard at these remotes sites has built in redundancy to be able to  
16 ensure that we can always provide the service or as much as possible provide that  
17 service. And so we're talking about the number of available transmitters. So if one is  
18 not online you have additional transmitters to be able to receive, especially since we do  
19 HF digital selective calling and voice distress monitoring so we're always able to  
20 respond to mariners in distress.

21 **CAPT Phillips:** So that degradation of services from the 7<sup>th</sup> through the 18<sup>th</sup> should not  
22 have prevented any messages from going out?

23 **WIT:** No, ma'am.

1     **CAPT Phillips:** How often is there a message like that where there are some  
2     degradation of services?

3     **WIT:** I don't have a specific metric to say how often that happens. But anytime we go  
4     below the full capacity we want to make sure that we make that notification aware to  
5     people so they're taking appropriate actions, make sure they have other gear and  
6     equipment available.

7     **CAPT Phillips:** Okay. If you have messages that you know that are not going out  
8     because some sort of connectivity issue is there a backup system to get weather  
9     information out?

10    **WIT:** Backup system for the Communications Command? Or are you speaking  
11    generally associated with ----

12    **CAPT Phillips:** Correct. About the Communications Command.

13    **WIT:** No, ma'am. If there was an outage at the Chesapeake site we have a continuity  
14    of operations facility in Novato, California. But the Chesapeake site wasn't the issue of  
15    this – for this moment, it was on site at the New Orleans location. So we had to have  
16    Coast Guard Base New Orleans go through and be able to do the troubleshooting and  
17    remediation of that.

18    **CAPT Phillips:** Do you have a sense for how often mariners use NAVTEX messages?

19    **WIT:** Unfortunately no, ma'am. There's no metric associated with the support of the  
20    utilization of NAVTEX.

21    **CAPT Phillips:** Okay. Thank you. I'm going to turn the microphone over to Mr. Ehlers  
22    with the NTSB for some questions.

23    **Mr. Ehlers:** Good afternoon Commander Taylor. Can you hear me?



1     **WIT:** I can, sir.

2     **Mr. Ehlers:** Okay. I just have a couple very quick questions. Just to be clear  
3     degradation that was announced from 7 to 18 April the casualty that happened on the  
4     13<sup>th</sup> of April was not related to that degradation, correct?

5     **WIT:** Correct. The degradation services from the 7<sup>th</sup> to the 18<sup>th</sup> was associated with the  
6     actual transmitters themselves and the number that were available. The issue that  
7     happened for the short period during the 13<sup>th</sup> of April was associated with connectivity to  
8     the site itself.

9     **Mr. Ehlers:** Okay. And was that issue related to the commercial network side or the  
10    Coast Guard equipment, do you know?

11    **WIT:** From my awareness it was associated with the internet service provider who is  
12    Verizon.

13    **Mr. Ehlers:** Okay. Are there any other networks that are under the control of the Coast  
14    Guard Communications Command, or Communications Center that transmit National  
15    Weather Service special marine warnings?

16    **WIT:** No, sir.

17    **Mr. Ehlers:** Thank you very much.

18    **WIT:** Yes, sir.

19    **CAPT Phillips:** Thank you Mr. Ehlers. I don't think any other Coast Guard or NTSB  
20    individuals have questions at this present time. So I'm going to turn it over to the parties  
21    in interest to see if any of them have any questions for you. I'll start with the American  
22    Bureau of Shipping.

23    **Mr. White:** Thank you Captain, ABS has no questions at this time.

1     **CAPT Phillips:** Thank you Mr. White. I'm going to turn it over to the representative of  
2     the First Mate.

3     **Mr. Sterbcow:** Quickly, my name is Paul Sterbcow, I represent the First Mate on the  
4     SEACOR POWER on the 13<sup>th</sup>. Is it my understanding that the boat was incapable of  
5     receiving messages through the NAVTEX system between noon and 4 p.m. on the  
6     13<sup>th</sup>?

7     **WIT:** Yes, sir. You're correct in that the system was not operating between 1500 Zulu  
8     and 2123 Zulu.

9     **Mr. Sterbcow:** Is there any other means of Communications be it email or anything  
10    else that would run through the system that you just described beyond the NAVTEX  
11    system? Any other way to communicate with vessels?

12    **WIT:** No, sir. Not from the Communications Command. Although there are obviously  
13    methods for mariners to be able to receive coastal marine forecasts. That would  
14    include the NOAA weather radio, the telephone recordings by the National Weather  
15    Service as well as their website. And the Coast Guard VHF voice broadcast.

16    **Mr. Sterbcow:** Right. It just wouldn't go through NAVTEX and the Command Center in  
17    Virginia?

18    **WIT:** Yes, sir.

19    **Mr. Sterbcow:** This is a dedicated system I guess is the best way to put it.

20    **WIT:** Absolutely, sir.

21    **Mr. Sterbcow:** That's all I have. Thank you.

22    **WIT:** Yes, sir.

23    **CAPT Phillips:** Thank you Mr. Sterbcow. SEACOR Marine and Falcon Global.

1 **Ms. Apps:** Very briefly Captain Phillips. I'm sorry is it Lieutenant? I don't know how to  
2 address the witness, I'm sorry.

3 **CAPT Phillips:** Commander.

4 **Ms. Apps:** I apologize.

5 **CAPT Phillips:** No problem.

6 **Ms. Apps:** Commander Taylor my name is Antonia Apps, I'm just going to start my  
7 video, I apologize. My name is Antonia Apps I represent SEACOR Marine. I just have  
8 a very few follow up questions. And thank you for your time today and for your service.

9 **WIT:** Yes, ma'am.

10 **Ms. Apps:** Do I have it right that the weather information flows from the National  
11 Weather Service to the Navy Fleet Weather Center, from there to the Coast Guard,  
12 Central Command Area, is that right?

13 **WIT:** Yes, ma'am. The National Weather Service produces the weather products  
14 based on predefined geographic areas, they release those. They are taken by the  
15 United States Navy through their Naval Weather Center. They process them and make  
16 sure that they meet the specific criteria. They validate them and they put them  
17 immediately into record message system. So that they are already validated. Because  
18 the Coast Guard doesn't have a weather service so they're validating that information  
19 and making sure it's the correct format, etc. so we can get it out to the public in a trusted  
20 manner.

21 **Ms. Apps:** Thank you. And who, on April 13<sup>th</sup> who was the Command Officer in the  
22 New Orleans Communications Center if you know?

1 **WIT:** You're asking for the – who was at the Sector, the District or the unmanned  
2 facility that the Communications Command has in New Orleans? I'm confused, ma'am.

3 **Ms. Apps:** The District and the Sector if you have that information?

4 **WIT:** I don't have that information.

5 **Ms. Apps:** So just to be clear on the period of lack of connectivity at the local level that  
6 you've already talked about, I think you said it was from 1700 Zulu to 2123 Zulu. So to  
7 be clear in April that would mean it's from noon time Central, Central Time to 4:23  
8 Central Time, is that right?

9 **WIT:** Yes, ma'am, from 1507 Zulu, you said 1700. But 1500 yes, ma'am. So it's noon  
10 to 4, yes, ma'am.

11 **Ms. Apps:** So if there was a special marine warning issued at 12:08 p.m. Central Time  
12 that would not have gone through to the NAVTEX system ----

13 **WIT:** Correct.

14 **Ms. Apps:** On board the vessel.

15 **WIT:** Yes, ma'am.

16 **Ms. Apps:** No further questions. Thank you for your time Commander.

17 **WIT:** Yes, ma'am.

18 **CAPT Phillips:** Thank you Ms. Apps. Mr. Verdin.

19 **Mr. Verdin:** Good afternoon Commander. The ----

20 **CAPT Phillips:** Mr. Verdin are you willing to turn on your camera?

21 **Mr. Verdin:** Yes, ma'am, I am.

22 **CAPT Phillips:** Thank you.

1 **Mr. Verdin:** I'm sorry. Good afternoon Commander. Is the NAVTEX broadcast the  
2 only Communications that's broadcasted marine information broadcast that's coming  
3 through the Command Center?

4 **WIT:** From the Coast Guard Communications Command? Yes out of the New Orleans  
5 C5I that provides that information.

6 **Mr. Verdin:** Alright. So what about the high frequency broadcast marine information  
7 broadcast or anything? Where would that come from? Would you know?

8 **WIT:** I'm trying – so currently the only utilization of high frequency NAVTEX is done out  
9 of our site in Guam. But otherwise there's no high frequency NAVTEX that is provided.  
10 NAVTEX, MF NAVTEX is 518 Kilohertz is the international agreed upon based on  
11 SOLAS, sir.

12 **Mr. Verdin:** Right, right. NAVTEX is the wrong, it's the wrong – for high frequency  
13 utilization it may be the wrong term, its high frequency Telex weather information  
14 broadcast via Telex through the high frequency channels. Okay I think I just lost my  
15 visual as well. The reason I'm asking are you familiar with the operational requirements  
16 of GMDSS on board the vessels?

17 **WIT:** A little bit, I don't of them all, sir.

18 **Mr. Verdin:** Is it a requirement for a vessel to receive weather information or other  
19 navigational information via multiple sources from shore base for the area of operations  
20 that they're operating in?

21 **WIT:** It's my understanding that would be, but I can't speak affirmatively on that, sir.

22 **Mr. Verdin:** Okay. So if I and I'm just trying to explain it or maybe just confirm so if I'm  
23 working outside of an area of 200 miles, say Sea Area 3 I must have means of getting

1 weather information and data or navigational information from another source such as a  
2 high frequency navigation system, you know narrow band direct printing or IMARSAT  
3 system. Are you familiar with IMARSAT system?

4 **WIT:** [In audible] if you have a requirement for those other additional areas for  
5 providing coverage. There's not a service of that nature. That's through satellite.

6 **Mr. Verdin:** I'm sorry. You broke up. I'm losing you in and out. Was that a yes, I'm  
7 sorry?

8 **WIT:** IMARSAT Sea Safety Net would be the appropriate medium by which vessels  
9 operating outside of 200 nautical miles would be that method for them to get those.

10 **Mr. Verdin:** Right, that's what I needed. A back up system that should be available.  
11 Thank you.

12 **WIT:** Yes, sir.

13 **CAPT Phillips:** Thank you Mr. Verdin. I think you probably already covered this but I  
14 want to make sure I fully understand the outage. So you said that you used a land  
15 based pathway to get the signal from the Communications Center in Virginia down to  
16 the remote station in New Orleans. Is that what I heard?

17 **WIT:** Yes, ma'am.

18 **CAPT Phillips:** So that would be an internet service?

19 **WIT:** Absolutely.

20 **CAPT Phillips:** And then the outage that we had on the day of the incident, April 13<sup>th</sup>  
21 that was related to the internet's service?

22 **WIT:** Yes, ma'am.

1     **CAPT Phillips:** And that part of it is not a Coast Guard connection? You rely on an  
2 internet service provider for that?

3     **WIT:** Correct. Correct we have Verizon as the internet service provider for the  
4 connection between the Chesapeake Campus and our New Orleans site. And  
5 obviously there would be [in audible] between Coast Guard at both sites as well as  
6 Verizon to be able to determine where in that connection it, there was issue.

7     **CAPT Phillips:** Okay. But once the signal arrives at the remote station in New Orleans  
8 that's all Coast Guard equipment and maintained by the Coast Guard?

9     **WIT:** Yes, ma'am.

10    **CAPT Phillips:** Okay. And if there's a power outage in New Orleans is there a backup  
11 generator associated with that site?

12    **WIT:** Yes, ma'am.

13    **CAPT Phillips:** And does that automatically kick on if there's a power outage?

14    **WIT:** Yes, ma'am.

15    **CAPT Phillips:** Okay. I think that's all the questions that the Coast Guard and the  
16 NTSB had. Before I wrap it up I would just like to ask you if there's anything else that  
17 you would like to share with us that we haven't already asked about?

18    **WIT:** No, ma'am. Thank you for the opportunity today.

19    **CAPT Phillips:** Okay. Thank you very much for joining us today and giving us your  
20 testimony. You are now released as a witness at this Marine Board Investigation  
21 Hearing. Thank you for your cooperation. If I later determine that this board needs  
22 additional information from you I will contact you via your counsel. If you have any